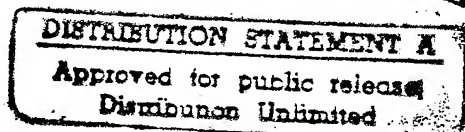
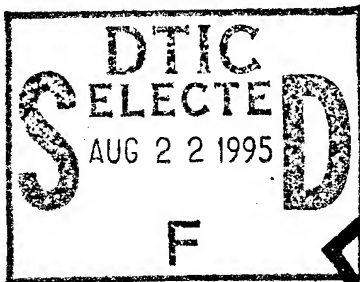


DRAFT FINAL REPORT
INSTALLATION RESTORATION
PROGRAM
PRELIMINARY ASSESSMENT / SITE
INSPECTION
VOLUME II
APPENDICES

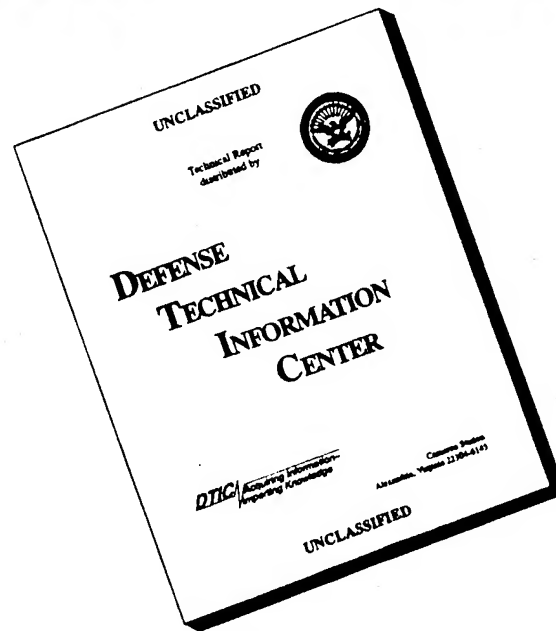
220th ENGINEERING INSTALLATION SQUADRON
ZANESVILLE AIR NATIONAL GUARD STATION
OHIO AIR NATIONAL GUARD
ZANESVILLE, OHIO
NOVEMBER 1994



AIR NATIONAL GUARD READINESS CENTER
ANDREWS AFB, MARYLAND

19950821 069

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

INSTALLATION RESTORATION PROGRAM

PRELIMINARY ASSESSMENT / SITE INSPECTION

VOLUME II

**220th ENGINEERING INSTALLATION SQUADRON
ZANESVILLE AIR NATIONAL GUARD STATION
OHIO AIR NATIONAL GUARD
ZANESVILLE, OHIO**

MARCH 1995

Prepared For

**AIR NATIONAL GUARD READINESS CENTER
ANDREWS AFB, MARYLAND**

Prepared By

**Operational Technologies Corporation
4100 N.W. Loop 410, Suite 230
San Antonio, Texas 78229-4253
(210) 731-0000**

APPENDIX A

HAZARD RANKING SYSTEM (HRS) "DATA REQUIREMENTS FOR FEDERAL FACILITY DOCKET SITES" PACKAGE

Accession For		
NTIS	CRA&I	<input checked="" type="checkbox"/>
DTIC	TAB	<input type="checkbox"/>
Unannounced		<input type="checkbox"/>
Justification		
By		
Distribution /		
Availability Codes		
Dist	Avail and/or Special	
A-1	23	

PA/SI DATA REQUIREMENTS FOR FEDERAL FACILITY DOCKET SITES

Zanesville ANGS, Zanesville, Ohio

1. Supply copies of all sampling data, on-site and off-site, including location map, detection limits (see definitions below), raw data sheets, QA/QC documents, date(s) sampled, analytical method(s) used, well or boring logs, and sampling technique(s).

All field screening results are presented in Appendix C. All laboratory analytical reports are presented in Appendix E.

2. Locate and identify on a map all known or suspected sources (see definition below). Supply all information about source(s) such as: dates of operation, use, or spillage; amounts of material deposited, stores, or spilled; dimensions of source(s); known or suspected hazardous substances (see definition below), etc.

This information can be found in Section 4.2 of the PA/SI Report.

3. Provide a description of all aquifers beneath the site, including description of overlying materials, depth first encountered thickness, and composition.

This information can be found in Section 3.5 of the PA/SI Report.

4. For each source, choose one description from Table 1 that describes the groundwater contaminant. Provide complete documentation (i.e., engineering diagrams, photographs (originals) as to why the source meets that description and not any other in the Table.

A groundwater investigation has not been conducted because groundwater was not encountered above bedrock. Therefore, the status on groundwater contaminant has not been determined.

5. Provide the location of all drinking water wells in all aquifers beneath the site in 4-mile radius from the site (property boundary) by HRS distance ring and locate the wells within a one-mile radius on a 7.5 minute topographic map. Provide

information on depth of well(s), screening interval(s), depth of aquifer(s) encountered, population served for multiple wells (i.e., municipal system), provide the number of wells, location of all wells (regardless of 4-mile limit), average annual pumpage of each well (regardless of 4-mile limit), and total population served by system. Include information on all standby wells.

This question does not apply since there are no public wells within a 4-mile radius of the site. (Source: Zanesville Health Department)

6. **Provide information and location (on 7.5 minute topographic map) of wells within 4 miles that are used to irrigate five or more acres of commercial food or forage crops, or watering of commercial livestock, or ingredient in commercial food preparation, or supply for aquaculture, or supply for a major or designated water recreation area, excluding drinking water use.**

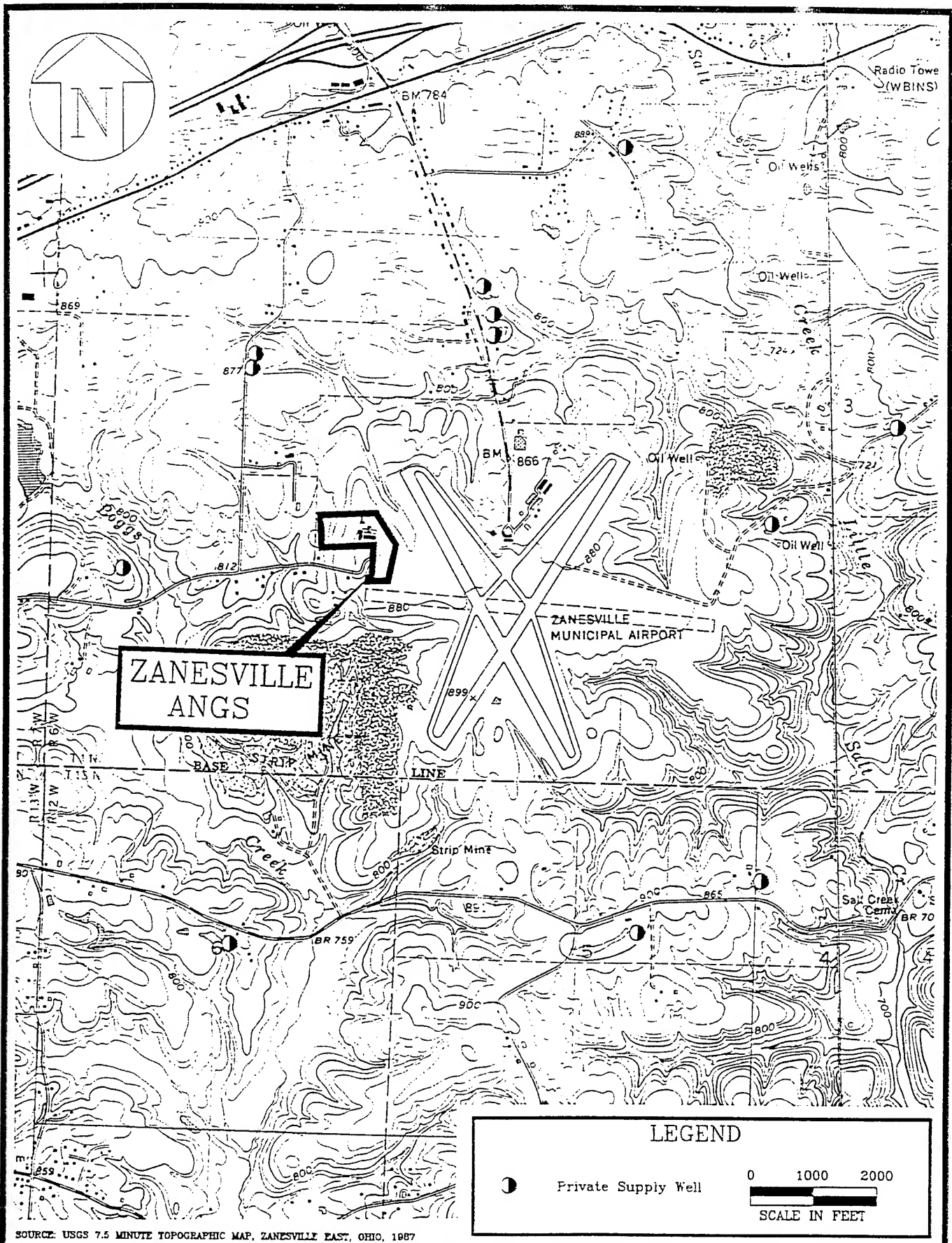
Approximately 15 private wells exist within a 1-mile radius (Figure A.1) and approximately 19 private wells exist within a 4-mile radius. Copies of the well logs have been provided. (Source: Ohio Department of Natural Resources, Division of Water)

7. **Provide average number of persons per residence for county (or counties) that site is located in per the U. S. Census Bureau.**

The average number of persons per residence for Muskingum County is 2.61. (Source: 1990 Census; State Library of Ohio)

8. **Identify and locate all surface water bodies within two miles of the site marking off the drainage routes (shown on 7.5 minute topographic map) from each source to applicable surface water bodies. Provide the average annual cubic feet per second flow for each surface water body within 15 miles downriver or radius from the point of probably entry into surface water. For lakes, provide information on inflow and outflow.**

The surface water bodies that are located within two miles of the site are Boggs Creek and Little Salt Creek. Several attempts were made to obtain information on the average annual cubic feet per second flow but none of the agencies contacted (Zanesville Water Division, Agriculture Division, and the Soil Conservation Service) could provide the information or tell us where to find it. Figure A.2 shows the drainage route from the site.



DRAFT
FIGURE A.1

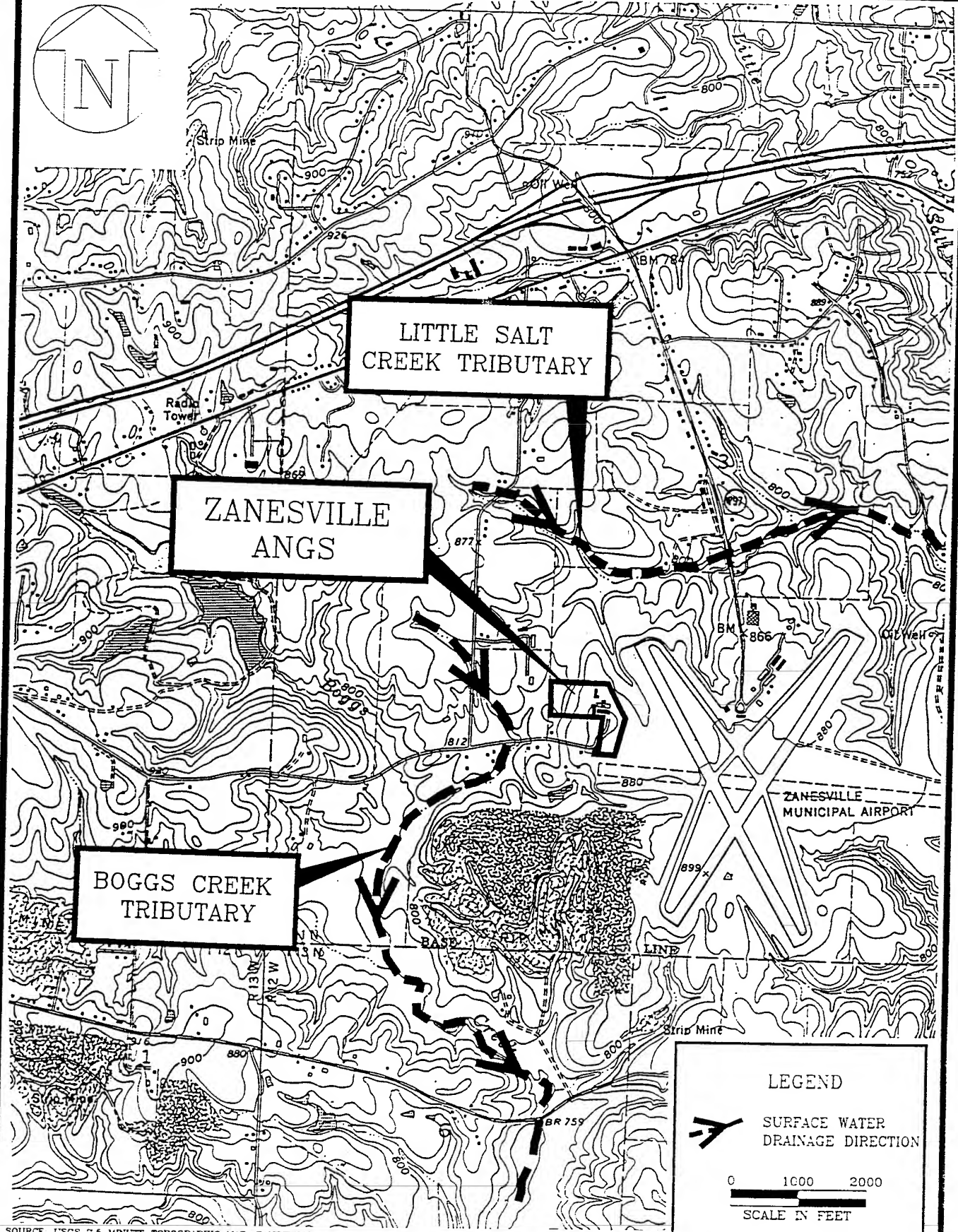
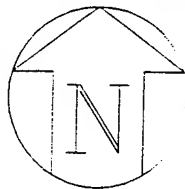
P\ZANES\PRWEL

PRIVATE WATER WELLS
WITHIN 1 MILE RADIUS OF ANG

220th EIS, Zanesville ANG
Zanesville, Ohio

OPTech
OPERATIONAL TECHNOLOGIES
CORPORATION

JULY 1994



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, ZANESVILLE EAST, OHIO 1957

DRAFT
FIGURE A.2

P ZANESVILLE

SURFACE WATER DRAINAGE
FROM ANG LOCATION
220th EIS, Zanesville ANG
Zanesville, Ohio

OPTech
OPERATIONAL TECHNOLOGIES
CORPORATION

JULY 1994

9. For each source, choose one description from Table 2 that describes the surface water containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets that description and not any other in the Table.

All sources: no evidence of hazardous substance migration from source areas and no maintained engineered cover or run-on control or runoff management system.

10. Provide the number of acres in each drainage basin.

The total number of acres in the Little Salt Creek drainage basin is 76. (Source: Ohio Department of Natural Resources)

11. From Table 3, choose the predominant soil group (surface soil) which comprises the largest total area within each drainage area.

The best soil description for this site is: Moderately fine-textured soils with low infiltration rates consisting mostly of silty loams.

12. Provide the two year, 24-hour rainfall.

The two year, 24-hour rainfall is 2.25". (Source: National Climatic Center)

13. From Table 4, choose the floodplain category for each source (supply Federal Emergency Management Agency floodplain map) and determine if each source meets the criteria from Table 5 (engineer's certification).

The floodplain category that best describes this area is: None of the above. This site is located outside the 500-year floodplain. (Source: Federal Emergency Management Agency Map)

14. Provide the location of all drinking water intakes with 15 downstream miles (rivers) or 15-mile radius (lakes, bays, etc.). Provide information on population served. For multiple intakes (i.e., municipal system), provide information on the number of intakes, location of all intakes (regardless of 15-mile limit), and total population served by system. Include information on all standby intakes.

This question does not apply since surface water is not used for the above purpose.
(Source: Zanesville Water Division)

15. **Provide information and location of intakes within 15 miles downriver (radius in lake or bay) that are used to irrigate five or more acres of commercial food or forage crops, or watering of commercial livestock, or ingredient in commercial food preparation, or supply for aquaculture, or supply for a major or designated water recreation area, excluding drinking water use.**

This question does not apply since surface water is not used for the above purpose.
(Source: Zanesville Water Division)

16. **Provide any surface water body 15 miles downriver (radius in lakes or bay) used for drinking water.**

Surface water is not used for drinking water purposes. (Source: Zanesville Water Division)

17. **Provide the average human food chain production (pounds per year) for each surface water body 15 miles downriver of 15-mile radius in lake.**

This information is not available. (Source: Zanesville Water Division)

18. **Within a 4-mile radius from the site and 15 miles downriver, or radius in lake, identify all sensitive environments that exists. Provide original documentation (USF&W, Natural Heritage Database, State agencies, NOAA, etc.), multiple sensitive environments within a sensitive environment.**

According to the Ohio Department of Natural Resources, they have two records from within the four-mile radius and several records from the Muskingum River.

To the northeast of the airport and on the Norwich Quad, they have a record for the Hellbender, a type of salamander which is Endangered in Ohio and a candidate for the Federal list (Federal Category 2). It was found in salt Creek at the U.S. Route 40 bridge. To the southwest of the airport and on the Zanesville east Quad is a record for the State Champion Big White Oak Tree. It is located on County Route 192 for which they do not

have an exact address. The tree measures 21 feet and 6 inches in circumference, 78 feet tall and has an 84 foot crown spread.

There are several fish and mollusk records from the Muskingum River, as well as one turtle record. The fifteen mile stretch is from the I-70 bridge in Zanesville downstream to the Muskingum-Morgan county line. This stretch is located on the Zanesville West, Zanesville East and Philo Quads.

On the Zanesville West Quad, the Eastern Sand Darter was collected at four sites. Four other species of fish were also collected, two of which are State Endangered. The Sand Darter was collected again near the mouth of Brush Creek. This location is on Zanesville East Quad.

There are five collection points on the Philo Quad where several species of fish and mollusks were taken. Also, a smooth softshell turtle was reported from collection site #2 below the dam at Duncan Falls. (Source: Ohio Department of Natural Resources)

- 19. What is the linear frontage of all wetlands 15 miles downriver or 15-mile radius in lake?**

The linear frontage for all wetlands 5 miles downriver is approximately 7.76 miles. (Source: National Wetlands Inventory Map, Department of the Interior)

- 20. Provide the location and number of persons residing, working, attending school, or day care within 200 feet. This includes both the Air and Army Guard.**

The Zanesville ANGGS has a weekday work population of 17 people; during training weekends, the population rises to 180. (Source: PA/SI Reports)

- 21. Identify all terrestrial sensitive environments that exist on-site. Provide original documentation (USF&W, natural Heritage Database, State Agencies, NOAA, etc.) and locate each on a 7.5 minute topographic map. Note that there could be multiple sensitive environments within a sensitive environment.**

According to the Ohio Department of Natural Resources, no records of rare plants or animals at the airport site exist at the present time. A lack of records for any particular

area is not a statement that rare species or unique features are absent from the area.
(Source: Ohio Department of Natural Resources)

22. For each source, choose one description from Table 8 that describes the accessibility to a human population. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets that description and not any other in the Table.

The best description for this site is: surrounded by maintained fence.

23. Provide the total number of people in following distance rings from source(s)?

- 0-1/4 mile: No observation
- 1/4-1/2 mile: 387
- 1/2-1 mile: 451
- 1-2 miles: 1891
- 2-3 miles: 4109
- 3-4 miles: 6638

Use 1990 Census data and/or actual house counts. Document how calculated.

Source: Census of Population and Housing, 1990: Public Law (P.L.) 94-171 Data (Ohio) (Machine- Readable Data File)/ Prepared by the Bureau of the Census.--
Washington: The Bureau (Production and Distribution), 1991.

Prepared By: Ohio Data Users Center, Ohio Dept. of Development, P.O. Box 1001, Columbus, OH. 43266-0101. Telephone 800/848-1300, Extension 2115, or 614/466-2115. (DL--11/93)

24. For each source, choose one description from Table 9 that describes the gaseous containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]), as to why the source meets that description and not any other in the Table. From Table 10, choose the appropriate description of each source type. For each source, choose one description from Table 11 that describes that particulate containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets the description and not any other in the Table.

Table 9: All situations except those specifically listed below.

Table 10: Contaminated soil (excluding land treatment).

Table 11: All situations except those specifically listed below.

- 25. Provide the location and area (in acres) of all wetlands within 4 miles of the site.**

There are approximately 194 acres of wetlands within a 4-mile radius of the site.
(Source: National Wetlands Inventory Map, Department of the Interior)

- 26. Contact EPA Regional Office immediately if any radionuclides are present or suspected at the site and supply all radiological information known to date.**

No radionuclides are present or suspected at the site.

- 27. For all of the above information, use primary data source and supply two copies or specify where copies may be obtained.**

- 28. Provide any removals or remedial actions taken place at the site.**

No removals or remedial actions have taken place at the site.

- 29. If information relevant to a question already has been provided to the EPA, your answer may precisely cite the previous submittal by title, date, page, and paragraph number rather than resubmitting the information.**

DEFINITIONS

Detection Limit (DL)

Lowest amount that can be distinguished from the normal random "noise" of an analytical instrument or method. For this submission, the detection limit used is the method detection limit (MDL), or, for real-time instruments, the detection limit of the instrument as used in the field.

Hazardous Substance

CERCLA hazardous substances, pollutants, and contaminant as defined in CERCLA sections 101(14) and 101(33).

Method Detection Limit (MDL)

Lowest concentration of an analyte that a method can detect reliably in either a sample or blank.

Sample Quantitation Limit (SQL)

Quantity of a substance that can reasonably be quantified given the methods of analysis and sample characteristics that may affect quantification (for example, dilution, concentration).

Site: Area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include areas between sources.

Source: Any area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance. Sources do not include those volumes of air, groundwater, surface water, or surface water sediments that have become contaminated by migration, except: in the case of either a groundwater plume with no identified source, or contaminated surface water sediments with no identified source, the plume may be considered a source.

Table 1

All Sources (Except Surface Impoundments, Land Treatment, Containers, and Tanks)

Evidence of hazardous substance migration from source area (i.e., source area includes source and any associated containment structures).

No liner.

No evidence of hazardous substance migration from source area, a liner, and:

- (a) None of the following present: (1) maintained engineered cover, (2) functioning and maintained run-on control system and runoff management system, or (3) functioning leachate collection and removal system immediately above liner.
- (b) Any one of the three items in (a) present.
- (c) Any two of the items in (a) present.
- (d) All three items in (a) present plus a functioning groundwater monitoring system.
- (e) All items in (d) present plus no bulk or non-containerized liquids nor materials containing free liquids deposited in source area.

No evidence of hazardous substance migration from source area, double liner with functioning leachate collection and removal system above and between liners, functioning groundwater monitoring system, and:

- (f) Only one of the following deficiencies present in containment: (1) bulk or noncontainerized liquids or materials containing free liquids deposited in source area, or (2) no or nonfunctioning or nonmaintained run-on control system and runoff management system, or (3) no or nonmaintained engineered cover.
- (g) None of the deficiencies in (f) present.

Source area inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate is generated, liquid or materials containing free liquids not deposited in source area, and functioning and maintained run-on control present.

Surface Impoundment

Evidence of hazardous substance migration from surface impoundment.

No liner.

Free liquids present with either no diking, unsound diking, or diking that is not regularly inspected and maintained.

No evidence of hazardous substance migration from surface impoundment, free liquids present, sound diking that is regularly inspected and maintained, adequate freeboard, and:

- (a) Liner.
- (b) Liner with functioning leachate collection and removal system below liner, and functioning groundwater monitoring system.
- (c) Double liner with functioning leachate collection and removal system between liners, and functioning groundwater monitoring system.

No evidence of hazardous substance migration from surface impoundment and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Land Treatment

Evidence of hazardous substance migration from land treatment zone.

No functioning, maintained, run-on control and runoff management system.

No evidence of hazardous substance migration from land treatment zone and:

- (a) Functioning and maintained run-on control and runoff management system.
- (b) Functioning and maintained run-on control and runoff management system, and vegetative cover established over entire land treatment area.
- (c) Land treatment area maintained in compliance with 40 CFR 264.280.

Containers

All containers buried.

Evidence of hazardous substance migration from container area (i.e., container area includes containers and any associated containment structures).

No liner (or no essentially impervious base) under container area.

No diking (or no similar structure) surrounding container area.

Diking surrounding container area unsound or not regularly inspected and maintained.

No evidence of hazardous substance migration from container area, container area surrounded by sound diking that is regularly inspected and maintained, and:

- (a) Liner (or essentially impervious base) under container area.
- (b) Essentially impervious base under container area with liquids collection and removal system.
- (c) Containment system includes essentially impervious base, liquids collection system, sufficient contain 10 percent of volume of all containers, and functioning and maintained run-on control; plus functioning groundwater monitoring system, and spilled or leaked hazardous substances and accumulated precipitation removed in timely manner to prevent overflow of collection system, at least weekly inspection of containers, hazardous substances in leaking or deteriorating containers transferred to containers in good condition, and containers sealed except when waste is added or removed.
- (d) Free liquids present containment system has sufficient capacity to hold total volume of all containers and to provide adequate freeboard, single liner under container area with functioning leachate collection and removal system below liner, and functioning groundwater monitoring system.
- (e) Same as (d) except: double liner under container area with functioning leachate collection and removal system between liners.

Containers inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any unsealed or ruptured containers, liquids or materials containing free liquids not deposited in any container, and functioning and maintained runoff control present.

No evidence of hazardous substance migration from container area, containers leaking, and all free liquids eliminated at closure (either by removal of liquid or solidification of remaining wastes and waste residues).

Tank

Belowground tank.

Evidence of hazardous substance migration from tank area (i.e., tank area includes tank, ancillary equipment such as piping, and any associated containment structures).

Tank and ancillary equipment not provided with secondary containment, (e.g., liner under tank area, vault system, double wall).

No diking (or no similar structure) surrounding tank and ancillary equipment

Diking surrounding tank and ancillary equipment unsound or not regularly inspected and maintained.

No evidence of hazardous substance migration from tank area, tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained. and:

- (a) Tank and ancillary equipment provided with secondary containment.
- (b) Tank and ancillary equipment provided with secondary containment with leak detection and collection system.
- (c) Tank and ancillary equipment provided with secondary containment system that detects and collects spilled or leaked hazardous substances and accumulated precipitation and has sufficient capacity to contain 110 percent of volume of largest tank within containment area, spilled or leaked hazardous substances and accumulated precipitation removed in timely manner, at least weekly inspection of tank and secondary containment system, all leaking or unfit-for-use tank systems promptly responded to, and functioning groundwater monitoring system.
- (d) Containment system has sufficient capacity to hold volume of all tanks within tank containment area and to provide adequate freeboard, single liner under that containment area with functioning

leachate collection and removal system below liner, and functioning groundwater monitoring system.

- (e) Same as (d) except double liner under tank containment area with functioning leachate collection and removal system between liners.

Tank is aboveground, and inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any material released from tank, liquids or materials containing free liquids not deposited in any tank, and functioning and maintained run-on control present.

Table 2

All Sources (Except Surface Impoundments, Land Treatment, Containers, and Tanks)

Evidence of hazardous substance migration from source area (i.e., source area includes source and any associated containment structures).

No evidence of hazardous substance migration from source areas and:

- (a) Neither of the following present: (1) maintained engineered cover, or (2) functioning and maintained run-on control system and runoff management system.
- (b) Any one of the two items in (a) present.
- (c) Any two of the following present: (1) maintained engineered cover, or (2) functioning and maintained run-on control system and runoff management system, or (3) liner with functioning leachate collection and removal system immediately above liner.
- (d) All items in (c) present.
- (e) All items in (c) present, plus no bulk or non-containerized liquids nor materials containing free liquids deposited in source area.

No evidence of hazardous substance migration from source area, double liner with functioning leachate collection and removal system above and between liners, and:

- (f) Only one of the following deficiencies present in containment: (1) bulk or noncontainerized liquids or materials containing free liquids deposited in source area, or (2) no or nonfunctioning or nonmaintained run-on control system and runoff management system, or (3) no or nonmaintained engineered cover.
- (g) None of the deficiencies in (f) present.

Source area inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate is generated, liquids or materials containing free liquids not deposited in source area, and functioning and maintained run-on control present.

Surface Impoundment

Evidence of hazardous substance migration from surface impoundment.

Free liquids present with either no diking, unsound diking, or diking that is not regularly inspected and maintained.

No evidence of hazardous substance migration from surface impoundment, free liquids present, sound diking that is regularly inspected and maintained, adequate freeboard, and:

- (a) No liner.
- (b) Liner.
- (c) Liner with functioning leachate collection and removal system below liner.
- (d) Double liner with functioning leachate collection and removal system between liners.

No evidence of hazardous substance migration from surface impoundment and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Land Treatment

Evidence of hazardous substance migration from land treatment zone.

No functioning and maintained run-on control and runoff management system.

No evidence of hazardous substance migration from land treatment zone and:

- (a) Functioning and maintained and maintained run-on control and runoff management system.
- (b) Functioning and maintained run-on control and runoff management system, and vegetative cover established over entire land treatment area.
- (c) Land treatment area maintained in compliance with 40 CFR 264.280.

Containers

All containers buried.

Evidence of hazardous substance migration from container area (i.e., container area includes containers and any associated containment structures).

No diking (or no similar structure) surrounding container area.

Diking surrounding container area unsound or not regularly inspected and maintained.

No evidence of hazardous substance migration from container area and container area surrounded by sound diking that is regularly inspected and maintained.

No evidence of hazardous substance migration from container area, container area surrounded by sound diking that is regularly inspected and maintained, and:

- (a) Essentially impervious base under container area with liquids collection and removal system.
- (b) Containment system includes essentially impervious base, liquids collection system, sufficient capacity to contain 10 percent of volume of all containers, and functioning and maintained run-on control; and spilled or leaked hazardous substances and accumulated precipitation removed in timely manner to prevent overflow of collection system, at least weekly inspection of containers, hazardous substances in leaking or deteriorating containers transferred to containers in good condition, and containers sealed except when waste is added or removed.
- (c) Free liquids present containment system has sufficient capacity to hold total volume of all containers and to provide adequate freeboard, and single liner under container area with functioning leachate collection and removal system below liner.
- (d) Same as (c) except: double liner under container area with functioning leachate collection and removal system between liners. Containers inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any unsealed or ruptured containers, liquids or materials containing free liquids not deposited in any container, and functioning and maintained run-on control present.

No evidence of hazardous substance migration from container area, containers leaking, and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Tank

Belowground tank.

Evidence of hazardous substance migration from tank area (i.e., tank area includes tank, ancillary equipment such as piping, and any associated containment structures).

No diking (or no similar structure) surrounding tank and ancillary equipment.

Diking surrounding tank and ancillary equipment unsound or not regularly inspected and maintained.

No evidence of hazardous substance migration from tank area and tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained.

No evidence of hazardous substance migration from tank area, tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained, and:

- (a) Tank and ancillary equipment provided with secondary containment (e.g., liner under tank area, vault system, double wall) with leak detection and collection system.
- (b) Tank and ancillary equipment provided with secondary containment system that detects and collects spilled or leaked hazardous substances and accumulated precipitation and has sufficient capacity to contain 110 percent of volume of largest tank within containment area, spilled or leaked hazardous substances and accumulated precipitation removed in a timely manner, at least weekly inspection of tank and secondary containment system, and all leaking or unfit-for-use tank systems promptly responded to.

- (c) Containment system has sufficient capacity to hold total volume of all tanks within the tank containment area and to provide adequate freeboard, and single liner under tank containment area with functioning leachate collection and removal system below liner.
- (d) Same as (c) except double liner under tank containment area with functioning leachate collection and removal system between liners.

Tank is aboveground, and inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any material released from tank, liquids or materials containing free liquids not deposited in any tank, and functioning and maintained run-on control present.

Table 3
Surface Soil Description

Coarse-textured soils with high infiltration rates (for example, sands, loamy sands).
 Medium-textured soils with moderate infiltration rates (for example, sandy loams, loams).
 Moderately fine-textured soils with low infiltration rates (for example, silty loams, silts, sandy clay loams).
 Fine-textured soils with very low infiltration rates (for example, clays, sandy clays, silty clay loams, clay loams, silty clays); or impermeable surfaces (for example, pavement).

Table 4
Floodplain Categories

Source floods annually.
 Source in 10-year floodplain.
 Source in 100-year floodplain.
 Source in 500-year floodplain.
 None of the above.

Table 5
Flood Containment

Documentation that containment at the source is designed, constructed, operated, and maintained to prevent a washout of hazardous substances by the flood being evaluated (see floodplain category).

Table 6
Sensitive Environments

Critical habitat^a for Federal designated endangered or threatened species.
 Marine Sanctuary.
 National Park.
 Designated Federal Wilderness Area.
 Areas identified under Coastal Zone Management Act^b.
 Sensitive areas identified under National Estuary Program^c or Near Coastal Waters Program^d.
 Critical areas identified under the Clean Lakes Program^e.
 National Monument^f.
 National Seashore Recreational Area.
 National Lakeshore Recreational Area.
 Habitat known to be used by Federal designated or proposed endangered or threatened species.
 National Preserve.
 National or State Wildlife Refuge.
 Unit of Coastal Barrier Resources System.
 Coastal Barrier (undeveloped).

Federal land designated for protection of natural ecosystems.
 Administratively Proposed Federal Wilderness Area.
 Spawning areas critical^e for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters.
 Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time.
 Terrestrial areas utilized for breeding by large or dense aggregations of animals^h.
 National river reach designated as Recreational.
 Habitat known to be used by State designated endangered or threatened species.
 Habitat known to be used by species under review as to its Federal endangered or threatened status.
 Coastal Barrier (partially developed).
 Federal designated Scenic or Wild River.
 State land designated for wildlife or game management.
 State designated Scenic or Wild River.
 State designated Natural Areas.
 Particular areas, relatively small in size, important to maintenance of unique biotic communities.
 State designated areas for protection or maintenance of aquatic lifeⁱ.

^aCritical habitat as defined in 50 CFR 424.02.

^bAreas identified in State Coastal Zone Management plans as requiring protection because of ecological value.

^cNational Estuary Program study areas (Subareas within subareas) identified in Comprehensive Conservation and Management Plans as requiring protection because they support critical life stages of key estuarine species (Section 320 of Clean Water Act, as amended).

^dNear Coastal Waters as defined in Sections 104(b)(3), 304(1), 319, and 320 of Clean Water Act, as amended.

^eClean Lakes Program critical areas (subareas within lakes, or in some cases entire small lakes) identified by State Clean Lake Plans as critical habitats (Section 314 of Clean Water Act, as amended).

^fUse only for air migration pathway.

^gLimit to areas described as being used for intense or concentrated spawning by a given species.

^hFor the air migration pathway, limit to terrestrial vertebrate species. For the surface water migration pathway, limit to terrestrial vertebrate species aquatic or semiaquatic foraging habits.

ⁱAreas designated under Section 305(a) of Clean Water Act, as amended.

Table 7
 Terrestrial Sensitive Environments

Terrestrial critical habitat^a for Federal designated endangered or threatened species.
 National Park.
 Designated Federal Wilderness Area.
 National Monument.
 Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species.
 National Preserve (terrestrial).
 National or State Terrestrial Wildlife Refuge.
 Federal land designated for protection of natural ecosystems.
 Administratively proposed Federal Wilderness Area.
 Terrestrial areas utilized for breeding by large or dense aggregations of animals^b.
 Terrestrial habitat known to be used by State designated endangered or threatened species.
 Terrestrial habitat known to be used by species under review as to its Federal designated endangered or threatened status.
 State lands designated for wildlife or game management.
 State designated Natural Areas.
 Particular area, relatively small in size, important to maintenance of unique biotic communities.

^aCritical habitat as defined in 50 CFR 42.

^bLimit to vertebrate species.

Table 8
Area of Observed Contamination

Designated recreational area.
 Regularly used for public recreation (for example, fishing, hiking, softball).
 Accessible and unique recreational area (for example, vacant lots in urban area).
 Moderately accessible (may have some access improvements – for example, gravel road), with some public recreation use.
 Slightly accessible (for example, extremely rural area with no road improvement), with some public recreation use.
 Accessible, with no public recreation use.
 Surrounded by maintained fence or combination of maintained fence and natural barriers.
 Physically inaccessible to public, with no evidence of public recreation use.

Table 9
Gas Containment Description

All situations except those specifically listed below.
 Evidence of biogas release.
 Active fire within source.
 Gas collection/treatment system functioning, regularly inspected, maintained, and completely covering source.
 Source substantially surrounded by engineering windbreak and no other containment specifically described in this table applies.
 Source covered with essentially impermeable, regularly inspected, maintained cover.
 Uncontaminated soil cover >3 feet:
 Source substantially vegetated with little exposed soil.
 Source lightly vegetated with much exposed soil.
 Source substantially devoid of vegetation.
 Uncontaminated soil cover ≥ 1 foot and ≤ 3 feet:
 Source heavily vegetated with essentially no exposed soil.
 Cover soil resistant to gas migration^a.
 Cover soil type not resistant to gas migration^a or unknown.
 Source substantially vegetated with little exposed soil and cover soil type resistant to gas migration^a.
 Other.
 Uncontaminated soil cover <1 foot:
 Source heavily vegetated with essentially no exposed soil and cover soil type resistant to gas migration^a.
 Other.
 Totally or partially enclosed within structurally intact building and no other containment specifically described in this table applies.
 Source consists solely of intact, sealed containers:
 Totally protected from weather by regularly inspected, maintained cover.
 Other.

^aConsider moist fine-grained and saturated coarse-grained soils resistant to gas migration; consider all other soils nonresistant.

Table 10
Source Type

Active fire area.
 Burn pit.
 Containers or tanks (buried/belowground):
 Evidence of biogas release.
 No evidence of biogas release.
 Containers or tanks, not elsewhere specified.

Contaminated soil (excluding land treatment).

Landfarm/land treatment.

Landfill:

Evidence of biogas release.

No evidence of biogas release.

Pile:

Tailings pile.

Scrap metal or junk pile.

Trash pile.

Chemical waste pile.

Other waste piles.

Surface impoundments (buried/backfilled):

Evidence of biogas release.

No evidence of biogas release.

Surface impoundment (not buried/backfilled):

Dry.

Other.

Other types of sources, not elsewhere specified.

Table 11
Particulate Containment Description

All situations except those specifically listed below.

Source contains only particulate hazardous substances totally covered by liquids.

Source substantially surrounded by engineered windbreak and no other containment specifically described in this table applies.

Source covered with essentially impermeable, regularly inspected, maintained cover.

Uncontaminated soil cover >3 feet:

Source substantially vegetated with little or no exposed soil.

Source lightly vegetated with much exposed soil.

Source substantially devoid of vegetation.

Uncontaminated soil cover ≥ 1 foot and ≤ 3 feet:

Source heavily vegetated with essentially no exposed soil:

Cover soil type resistant to gas migration^a.

Cover soil type not resistant to gas migration^a.

Source substantially vegetated with little exposed soil and cover soil type resistant to gas migration^a.

Other.

Uncontaminated soil cover <1 foot:

Source heavily vegetated with essentially no exposed soil and cover soil type resistant to gas migration^a.

Other.

Totally or partially enclosed within structurally intact building and no other containment specifically described in this table applies.

Source consists solely of containers:

All containers contain only liquids.

All containers intact, sealed, and totally protected from weather by regularly inspected, maintained cover.

All containers intact and sealed.

Other.

^aConsider moist fine-grained and saturated coarse-grained soils resistant to gas migration; consider all other soils nonresistant.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES

September 7, 1993

Zanesville Air National Guard Base

FOUR-MILE RADIUS

NORWICH QUAD

- A. Cryptobranchus alleganiensis - Hellbender (salamander), State Endangered, Federal Category 2

ZANESVILLE EAST QUAD

- B. White Oak Champion Big Tree

MUSKINGUM RIVER

ZANESVILLE WEST QUAD

1. Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2, (4 sites)
2. Notropis buchanani - Ghost Shiner
Noturus eleutherus - Mountain Madtom, State Endangered
Noturus stigmosus - Northern Madtom, State Endangered
Percina phoxocephala - Slenderhead Darter, Special Interest

ZANESVILLE EAST QUAD

1. Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2

PHILO QUAD

1. Notropis buchanani - Ghost Shiner
Noturus eleutherus - Mountain Madtom, State Endangered
Noturus stigmosus - Northern Madtom, State Endangered
Percina phoxocephala - Slenderhead Darter, Special Interest
Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2
2. Apalone mutica - Smooth Softshell (turtle)
Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
Potamilus ohioensis - Pink Papershell (mollusk)
3. Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
4. Percina phoxocephala - Slenderhead Darter, Special Interest
Potamilus ohioensis - Pink Papershell (mollusk)
Obliquaria reflexa - Threehorn Wartyback (mollusk), Threatened
Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
5. Obliquaria reflexa - Threehorn Wartyback (mollusk), Threatened
Percina phoxocephala - Slenderhead Darter, Special Interest
Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2

ORIGINAL

Nº 371374

OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

County Muskingum Township Salt Creek Section of Township _____

Owner Bohdan Bednarczuk Address Rt. 1, Chandlersville, Ohio

Location of property. On Muskingum County Road # 5 5680 Clay Pike

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST

Casing diameter 7" Length of casing 65'

Pumping Rate 20 G.P.M. Duration of test hrs.

Type of screen.....Length of screen.....

Drawdown 63 ft. Date

Type of pump.....

Static level-depth to water_____25_____ft.

Capacity of pump.....

Quality (clear, cloudy, taste, odor) Clear

Depth of pump setting.....

Date of completion Nov. 20, 1967

Pump installed by _____

WELL LOG*

SKETCH SHOWING LOCATION

Formations
Sandstone, shale, limestone,
gravel and clay

From

$$T_0$$

Top	0 Feet	8 Ft.
-----	--------	-------

Clay	8	13
------	---	----

Soft Gray Shale	18	37
-----------------	----	----

Gray Shale	37	63
------------	----	----

Water @ 40 Ft.

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N.

W.

E.

S.

See reverse side for instructions

Drilling Firm Suburban Drilling Co.

Date Nov. 21, 1967

Address 1950 E. Pike, Zanesville, Ohio

Signed E. H. White *E. H. White*

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 299456

County MUSKINGUM Township SALT CREEK Section of Township 4

Owner John I. Roll Address RT #1 Chandlessville Ohio

Location of property CLAY PINE (COUNTY Rd 5) 1/2 mi E. of Junction of 5 & Truss 389

CONSTRUCTION DETAILS

Casing diameter 8" I.D. Length of casing 26'
Type of screen WIRE Length of screen 125 ft.
Type of pump (JET) DEEP WELL
Capacity of pump 220 G.P.H.
Depth of pump setting 125 ft.
Date of completion 3-23-64

BAILING OR PUMPING TEST

Pumping Rate 1.5 G.P.M. Duration of test 12 hrs.
Drawdown ALL THE WAY Date 3-21-64
Static level-depth to water 35 ft.
Quality (clear, cloudy, taste, odor) CLEAR, NO
ODOR
Pump installed by TRUSS MYERS

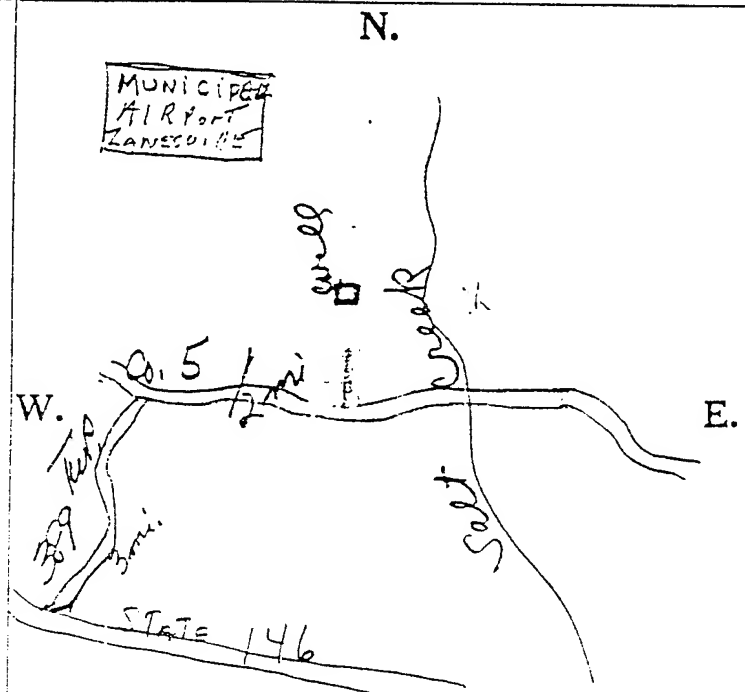
WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay (yellow)	0 Feet	6 Ft.
clay + SHALE (yellow)	6	8
CLAY + SHALE (gray)	8	16
CLAY (BLACK)	16	21
CLAY + SHALE (BLACK)	21	28
SANDROCK COARSE (gray)	28	41
SANDROCK FINE (gray)	41	55
CLAY (LIGHT GRAY)	55	56
CLAY Gray + yellow	56	62
LIME STONE SHALE	62	64
CLAY LIGHT GRAY	64	66
CLAY, SHALE + SAND	66	80
CLAY + SHALE	80	88
SHALE (gray)	88	91
CLAY, SHALE AND SAND	91	102
WHITE SAND ROCK	102	115
SHALE (DARK GRAY)	115	127

WATER AT 144 ft.

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm TRUSS MYERS

Date 3-23-64

Address 2 EASTWOOD DRIVE LANESVILLE

Signed Russell E. Myers

OHIO

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

496070

COUNTY MUSKINGUM TOWNSHIP WAYNE SECTION OF TOWNSHIP OR LOT NUMBER 6
OWNER GARY TYSINGER ADDRESS 312 NORTH ST DUNCAN FALLS, OH
LOCATION OF PROPERTY ON SOUTH SIDE OF CLAY PIKE APPROX 1/2 MI EAST MILLER'S LANE

CONSTRUCTION DETAILS

Casing diameter 3" 3/8" DIAPHR Length of casing 100
Type of screen 1/2" HOLE Length of screen 65 FT
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

(Specify one by circling)

Test rate 36 GPH Duration of test 2" hrs
Drawdown 80' ft Date _____
Static level (depth to water) 20 ft
Quality (clear, cloudy, taste, odor) Clear
no odor
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>FILLY LOAM</u>	<u>0 ft</u>	<u>3 ft</u>
<u>SHALE</u>	<u>3</u>	<u>32</u>
<u>SANDY SHALE</u>	<u>32</u>	<u>45</u>
<u>GRAV CLAY</u>	<u>45</u>	<u>51</u>
<u>SHALE</u>	<u>51</u>	<u>71</u>
<u>DARK SHALE</u>	<u>71</u>	<u>78</u>
<u>SAND ROCK</u>	<u>78</u>	<u>83</u>
<u>SANDY SHALE</u>	<u>83</u>	<u>100'</u>

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.

W

Clay P. KE

MILLERS LANE

FULLERS GOLF

E

S

DRILLING FIRM R.C. Ramsey
ADDRESS 2945 Chandlerville Rd.
Zanesville, Ohio 43701

DATE 4-16-76
SIGNED R.C. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

39

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 414434

County MUSKINGUM Township PERRY Section of Township _____

Owner EDDIE ALLARD Address RT. 4 ZANESVILLE OHIO

Location of property 1/2 mi SOUTH OF US 40 ON ST RT 797

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 23'
Type of screen NONE Length of screen _____
Type of pump SUBM.
Capacity of pump 10 GPM
Depth of pump setting 68'
Date of completion 3-29-71

BAILING OR PUMPING TEST (Specify one by circling)

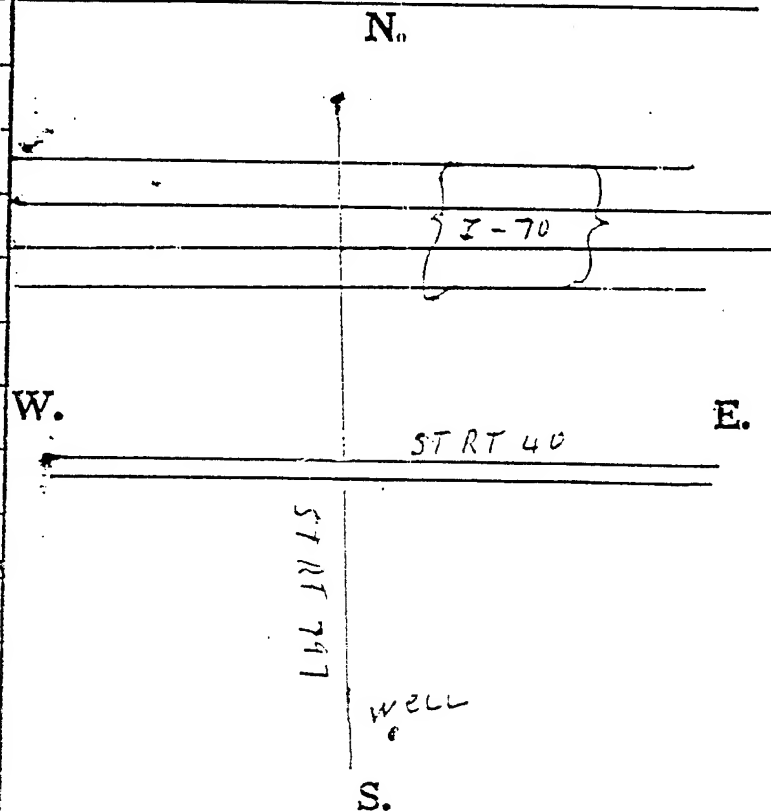
Test Rate 15 G.P.M. Duration of test 1 hrs.
Drawdown 78 ft. Date 3-29-71
Static level-depth to water 24 ft.
Quality (clear, cloudy, taste, odor) CLEAR
Pump installed by JERRY & BILL P.

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
<u>CLAY</u>	<u>0 Feet</u>	<u>12 Ft.</u>
<u>SAND</u>	<u>12</u>	<u>15</u>
<u>SAND ROCK</u>	<u>15</u>	<u>40</u>
<u>GRAY SHALE</u>	<u>40</u>	<u>43</u>
<u>GRAY SANDY SHALE</u>	<u>43</u>	<u>44</u>
<u>BLACK SHALE</u>	<u>44</u>	<u>47</u>
<u>GRAY SHALE</u>	<u>47</u>	<u>65</u>
<u>SOFT GRAY SHALE</u>	<u>65</u>	<u>70</u>
<u>GRAY SANDY SHALE</u>	<u>70</u>	<u>78 TD</u>
<u>WATER AT 29' & 40'</u>		

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



Drilling Firm SUBURBAN DRILLING CO.

Date 3-31-71

Address 1950 EAST PIKE ZANESVILLE OHIO

Signed Bill P. White

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 381820

County Muskingum Township Perry Section of Township _____

Owner R. E. Hicks Address Rt. 4, Zanesville, Ohio

Location of property Air Port Road- South of Rt. 440

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST (Specify one by circling)

Casing diameter <u>7"</u> Length of casing _____	Test Rate <u>5</u> G.P.M. Duration of test <u>1</u> hrs.
Type of screen _____ Length of screen _____	Drawdown <u>100</u> ft. Date <u>9-25-68</u>
Type of pump _____	Static level-depth to water <u>35</u> ft.
Capacity of pump _____	Quality (clear, cloudy, taste, odor) <u>Clear</u>
Depth of pump setting <u>118'</u>	_____
Date of completion <u>9-25-68</u>	Pump installed by _____

WELL LOG*

SKETCH SHOWING LOCATION

Formations Sandstone, shale, limestone, gravel and clay	From	To	
Pulled Pump & Pipe out of well & Drilled Deeper:	0 Feet	Ft.	
<u>1 1/2 G.P.M. at start</u>	<u>56</u>	<u>60</u>	
<u>Dark Gray Shale</u>	<u>60</u>	<u>71</u>	
<u>Dark Gray Sandy Shale</u>	<u>71</u>	<u>93</u>	
<u>Dark Gray Shale</u>	<u>93</u>	<u>98</u>	
<u>Dark Gray Sandy Shale</u>	<u>98</u>	<u>125</u>	T.D.
Picked up <u>3 1/2</u> Gal More Water @ <u>93</u> Ft.			

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N.

W.

E.

S.

AIR PORT RD 0.111
50 FT 177

Drilling Firm Suburban Drilling Co.

Date Sept. 30, 1968

Address 1950 E. Pike, Zanesville, Ohio

Signed R. E. White

B. H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

63

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

Nº 360638

DO NOT USE INK.

Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

County Madison Township Berry Section of Township

Owner Robert Ford Address E. Pike, Zanesville, O.

Location of property Airport Road, Zanesville, O.

CONSTRUCTION DETAILS

Casing diameter 6 3/8 Length of casing 131 ft
Type of screen Length of screen
Type of pump SUB
Capacity of pump 10 G.P.M.
Depth of pump setting 135
Date of completion 8/24/67

BAILING OR PUMPING TEST

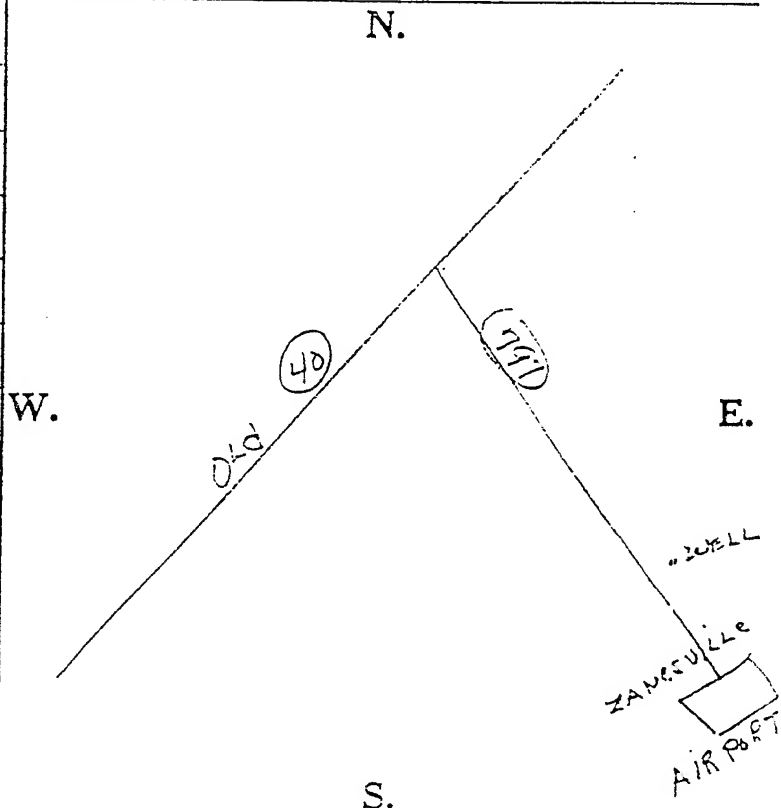
Pumping Rate 2 G.P.M. Duration of test hrs.
Drawdown 140 ft. Date
Static level-depth to water 50 ft.
Quality (clear, cloudy, taste, odor) clear
Pump installed by Swingle

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Surface	0 Feet	5 Ft.
Sandstone	5	70
Coal	70	71
Shale	71	83
Sandstone	83	105
Shale	105	135
Coal	135	139
Shale	139	140
Water 104 ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Swingle Water Well Drilling

Date 8/24/67

Address Rt. 7, Zanesville, Ohio

Signed Joseph L. Swingle

*If additional space is needed to complete well log, use next consecutive numbered form.

14

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER

State of Ohio
DEPARTMENT OF NATURAL RESOURCES

No 360629

DO NOT USE INK.

Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

County Franklin Township Down Section of Township

Owner Robert J. Smith Address 625 Locust, Xenia, Ohio

Location of property 1/2 mile east of Xenia, Tenn. on Rte. 366

CONSTRUCTION DETAILS

Casing diameter 6 7/8" Length of casing 32
Type of screen Length of screen
Type of pump SUB
Capacity of pump 10 G.P.M.
Depth of pump setting 160
Date of completion 9/15/67

BAILING OR PUMPING TEST

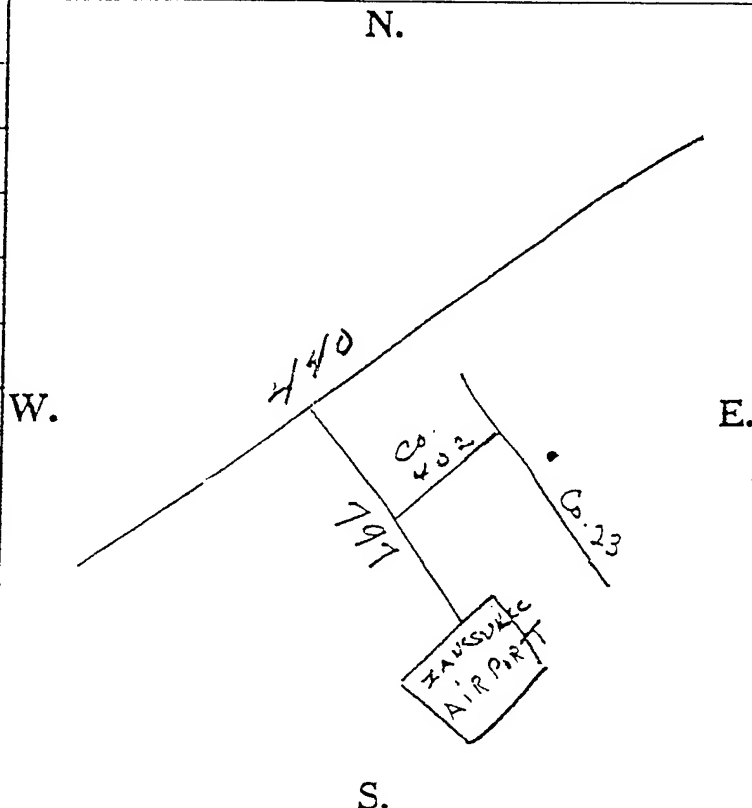
Pumping Rate 3 G.P.M. Duration of test hrs.
Drawdown ft. Date
Static level-depth to water 180 ft.
Quality (clear, cloudy, taste, odor) clear
no odor
Pump installed by Swingle

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Surface	0 Feet	3 Ft.
Clay & Shale	3	15
Sandstone	15	45
Slate--blue	45	75
Sandstone	75	108
Lime	108	130
Sandstone	130	140
Slate --blue	140	145
Water 108 ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Swingle Water Well Drilling

Date 9/15/67

Address Rt. 3, Xenia, Ohio

Signed Joseph L. Swingle

*If additional space is needed to complete well log, use next consecutive numbered form

(65)

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592569

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP _____
OWNER Ron Lafferty ADDRESS 6100 Park Lane
LOCATION OF PROPERTY 6100 Park Lane Norwich

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST

(specify one by circling)

Casing diameter 6.500 Length of casing 23
Type of screen perforated casing Length of screen 100
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

Test rate 1 gpm Duration of test _____ hrs
Drawdown 134 ft Date Oct 16 81
Static level (depth to water) 57 ft
Quality (clear, cloudy, taste, odor) Clear
Pump installed by _____

WELL LOG*

SKETCH SHOWING LOCATION

Formations: sandstone, shale,
limestone, gravel, clay

From

To

Locate in reference to numbered
state highways, street intersections, county roads, etc.

<u>Brown Shale</u>	<u>0 ft</u>	<u>14 ft</u>
<u>Brown Sand Rock</u>	<u>14</u>	<u>39</u>
<u>White Sand Rock</u>	<u>34</u>	<u>51</u>
<u>Gray Shale</u>	<u>51</u>	<u>61</u>
<u>Coal</u>	<u>61</u>	<u>63</u>
<u>White Sand Rock</u>	<u>63</u>	<u>97</u>
<u>Gray Shale</u>	<u>97</u>	<u>101</u>
<u>Coal</u>	<u>101</u>	<u>103</u>
<u>White Sand Rock</u>	<u>103</u>	<u>119</u>
<u>Gray Soft Shale</u>	<u>119</u>	<u>134</u>
<u>Water at</u>	<u>73</u>	
<u>Total Depth</u>	<u>134</u>	

W

N

East
old Wharfing
Road

Spry Rd

Park Lane

E

Well

Zanesville

Hiram

S

DRILLING FIRM Anderson Drilling
ADDRESS 113 S Willow Dr

DATE Oct 16, 1981

SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

(66)

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY-
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

520870

COUNTY Muskingham TOWNSHIP Perry SECTION OF TOWNSHIP 3 or 23
OWNER Tom & Kathy Richey ADDRESS Southern Rd Norwich, Ohio
LOCATION OF PROPERTY on north side of Park Lane app 1/2 mi west of S. Rd

CONSTRUCTION DETAILS

Casing diameter 7" Plastic Length of casing 25
Type of screen _____ Length of screen _____
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 15 gpm Duration of test _____ hrs
Drawdown 32 ft Date _____
Static level (depth to water) 18 ft
Quality (clear, cloudy, taste, odor) clear
Pump installed by _____

WELL LOG*

Formations: sandstone, shale,
limestone, gravel, clay

From

To

<u>Loam & Fill</u>	<u>0</u> ft	<u>2</u> ft
<u>Broken sandstone</u>	<u>2</u>	<u>8</u>
<u>Sandstone</u>	<u>8</u>	<u>34</u>
<u>shale</u>	<u>34</u>	<u>50</u>

water @ 40'

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.

W

N

E

S

Park Lane
Spry Rd

DRILLING FIRM R.C. Ramsey
ADDRESS 2945 Chandlerville Rd.
Lanesville, Ohio 43701

DATE 9-17-78

SIGNED RC Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

67

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

480001

COUNTY Frank TOWNSHIP Perry SECTION OF TOWNSHIP OR LOT NUMBER Hicks Rd
OWNER Bob Kussman ADDRESS 442 Hicks Rd
LOCATION OF PROPERTY 442 Hicks Rd

CONSTRUCTION DETAILS

Casing diameter 7" 6.12 Length of casing 21'
Type of screen slot Length of screen 120'
Type of pump -
Capacity of pump -
Depth of pump setting -
Date of completion -

BAILING OR PUMPING TEST

(specify one by circling)

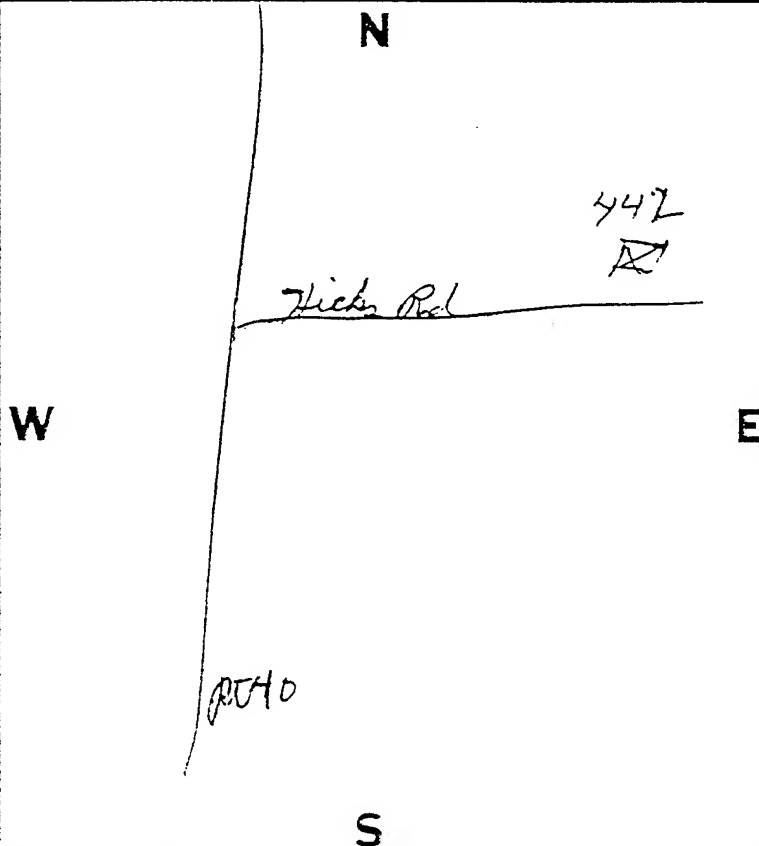
Test rate 55 gpm Duration of test 1/2 hrs
Drawdown 105 ft Date Oct. 1974
Static level (depth to water) 35 ft
Quality (clear, cloudy, taste, odor) clear
Pump installed by owner (Gas Planting)

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>loam</u>	0 ft	10 ft
<u>sandstone</u>	10	38
<u>gray shale</u>	38	48
<u>gray shale</u>	48	122
<u>limestone</u>	122	140
Water at 20' } 10 P.M.		
" " 48' } 10 P.M.		
" " 122' - 4 A.M.		

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.



DRILLING FIRM Bob Kussman

ADDRESS Franklin, Ohio

DATE Oct 1974

SIGNED J. Kussman

*If additional space is needed to complete well log, use next consecutive numbered form.

58

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER.
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

No. 253161

County Musk. Township Peery Section of Township U.S. Military Land
Owner Tom Kussmaul Address Rt. #4 So. Sonora Road Zanesville
Location of property 1 mile south of rt. 40 on county road 52

CONSTRUCTION DETAILS

Casing diameter 5½" Length of casing 64'
Type of screen ¼" slots Length of screen 1' each
Type of pump
Capacity of pump
Depth of pump setting
Date of completion

BAILING OR PUMPING TEST

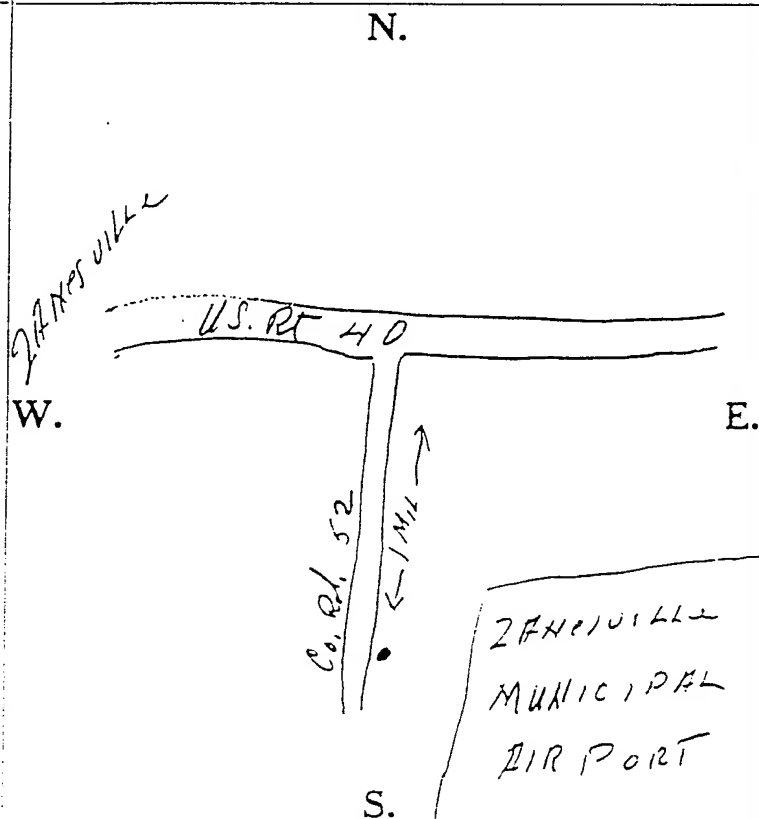
Pumping rate 1½ G.P.M. Duration of test 5 hrs.
Drawdown 122' ft. Date 8/13/60
Developed capacity 1½ G.P.M.
Static level—depth to water 32' ft.
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	2 Ft.
Clay	2	8
Sandy clay	8	12
Yellow sand rock	12	25
White sand rock	25	36
Gray shale	36	40
Coal	40	41
clay	41	46
Soft gray shale	46	58
Sand rock	58	59
Light sandy shale	59	62
Sand rock	62	78
Gray sandy shale	78	121
Gray sand rock	121	122
WATER AT 50'		
Well Gravel packed		
1' of perforations		
1' from bottom and		
10' from bottom		

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm SUBURBAN DRILLING CO.
118 PLEASANT GROVE ROAD
Address ZANESVILLE, OHIO

Date 9/10/60
Signed B. N. White

59

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592917

COUNTY Franklin TOWNSHIP Franklin SECTION OF TOWNSHIP Wheeling Rd.
OWNER Bob Butterbaugh ADDRESS 270 Byron St. E
LOCATION OF PROPERTY Wheeling Rd.

CONSTRUCTION DETAILS

Casing diameter 6 3/4" Length of casing 48'
Type of screen slot Length of screen 100'
Type of pump Sub
Capacity of pump 10 G.P.M.
Depth of pump setting 185'
Date of completion Aug 1981

BAILING OR PUMPING TEST

(specify one by circling)

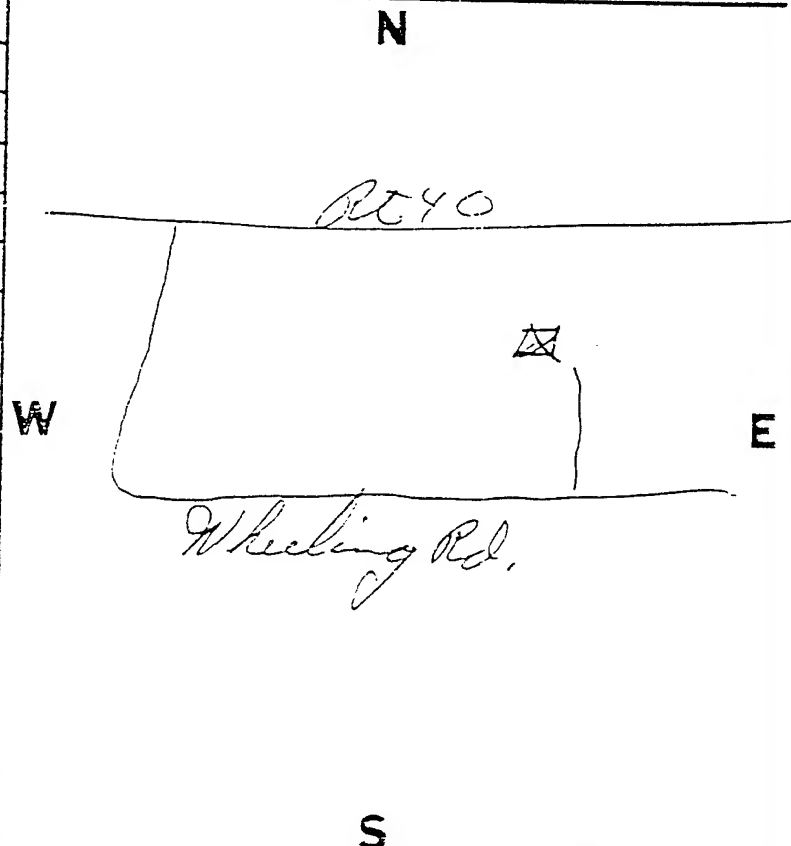
Test rate 1.83 gpm. Duration of test 2 hrs
Drawdown 143 ft. Date Aug 81
Static level (depth to water) 57' ft
Quality (clear) cloudy, taste, odor
Pump installed by Bob Butterbaugh

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>Drain shale</u>	0 ft	17 ft
<u>1" clay</u>	17	40
<u>Sandstone</u>	40	45
<u>limestone</u>	45	60
<u>shale</u>	60	100
<u>Sandstone</u>	100	120
<u>shale</u>	120	180
<u>sandstone</u>	180	300
<u>Water - 55'</u>		
<u>" 90'</u>		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Bob Butterbaugh
ADDRESS 50 Butler, Phila

DATE Aug 1981
SIGNED Bob Butterbaugh

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

60

Blue - Customer's Copy Pink - Driver's Copy Green - Local Health Dept. Copy

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL
OR TYPEWRITER
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 323546

County Muskingum Township Washington Section of Township

Owner Darrell Davis Address Old Wheeling Rd., Zanesville, O.

Location of property Old Wheeling Road

CONSTRUCTION DETAILS

24' of 8" Casing - 45' of 7" Liner
Casing diameter Length of casing
Type of screen Length of screen
Type of pump
Capacity of pump 1/3 H.P. Jacuzzi
Depth of pump setting
Date of completion March 16, 1965

BAILING OR PUMPING TEST

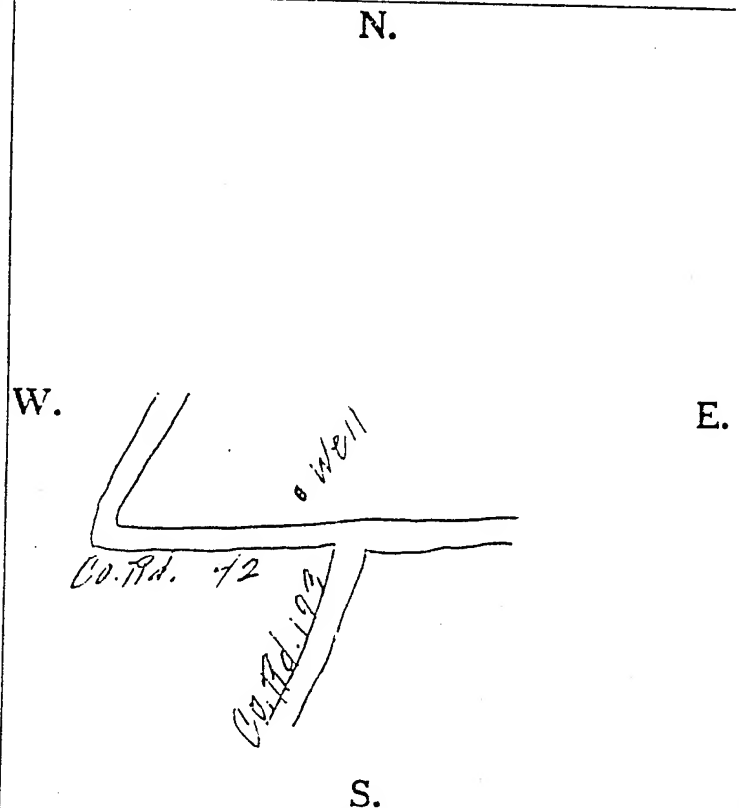
Pumping Rate 2 G.P.M. Duration of test hrs.
Drawdown 180 ft. Date
Static level-depth to water 25 ft.
Quality (clear, cloudy, taste, odor) Clear
Pump installed by Suburban Drilling Co.

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	5 Ft.
Brown Clay	5	24
Brown Sandy Shale	24	35
Sand Rock	35	41
Gray Shale	41	45
Red Shale	45	49
Gray Shale	49	54
Sand Rock	54	59
Gray Sandy Shale	59	81
Coal	81	83
Clay	83	86
Gray Sandy Shale	86	88
Sand Rock	88	92
Gray Sandy Shale	92	127
Black Slate	127	128
Gray Sandy Shale	128	132
Lime	132	133
Gray Sandy Shale	133	141
Sand Rock	141	147
Gray Sandy Shale	147	180

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Suburban Drilling Co.

Date May 21, 1965

Address 1950 East Pike, Zanesville, O.

Signed

B. H. White

242

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY-
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592916

COUNTY Franklin TOWNSHIP Franklin SECTION OF TOWNSHIP Whitcomb
OWNER Charles L. Smith ADDRESS Whitcomb Rd.
LOCATION OF PROPERTY Whitcomb Rd.

CONSTRUCTION DETAILS

Casing diameter 6" 8 Length of casing 21'
Type of screen slot Length of screen 160'
Type of pump Submersible
Capacity of pump 11.5 GPM
Depth of pump setting 16.5'
Date of completion Aug 1981

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 2 gpm Duration of test 4 hrs
Drawdown 15-6 ft Date Aug-81
Static level (depth to water) 24' ft
Quality (clear, cloudy, taste, odor) clear
Pump installed by Bob L. Smith

WELL LOG*

Formations: sandstone, shale,
limestone, gravel, clay

From

To

Clay	0 ft	12 ft
Limestone	12	32
Shale (sp)	32	45
Sandstone	45	55
Shale	55	60
Shale	60	80
Limestone	80	105
Shale	105	180

W

E

Water 80'

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.

N

Rt. 40

Whitcomb Rd.

S

DRILLING FIRM Wohr

DATE Aug 1981

ADDRESS 500 Butler Plaza

SIGNED John F. Smith

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

243

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY-
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

503191

COUNTY Franklin TOWNSHIP Franklin SECTION OF TOWNSHIP 4
OWNER Franklin ADDRESS Franklin
LOCATION OF PROPERTY Franklin Rd.

CONSTRUCTION DETAILS

Casing diameter 6 3/4" Length of casing 32'
Type of screen slotted Length of screen 8'
Type of pump Sub
Capacity of pump 10 HP
Depth of pump setting 90'
Date of completion July 1979

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>Loam + shale</u>	0 ft	15 ft
<u>gray clay</u>	15	25
<u>shale</u>	25	29
<u>sandy shale</u>	29	40
<u>sandstone</u>	40	55
<u>shale</u>	55	59
<u>sandstone</u>	59	70
<u>soft shale</u>	70	97
<u>sandstone</u>	97	100
<u>Water at 32' 10' P.M.</u>		
<u>" " 55"</u>		

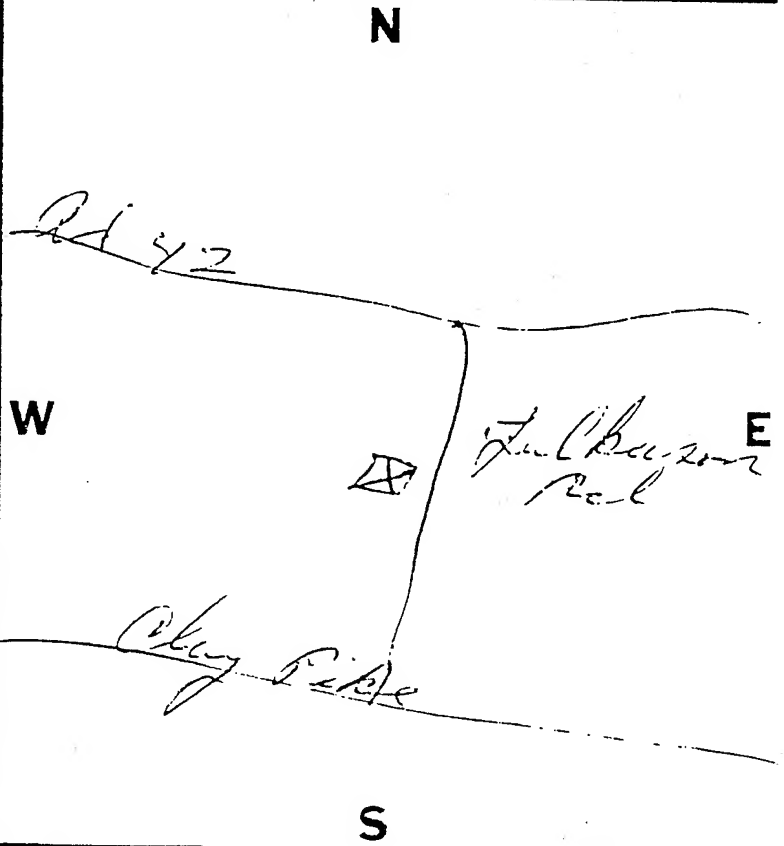
BAILING OR PUMPING TEST

(Specify one by circling)

Test rate 10 gpm Duration of test 1 hrs
Drawdown 78 ft Date July 1979
Static level (depth to water) 220' ft
Quality (clear, cloudy, taste, odor) clear
Pump installed by Franklin

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Franklin DATE July 1979
ADDRESS Franklin Rd SIGNED Franklin

*If additional space is needed to complete well log, use next consecutive numbered form.

244

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

503180

COUNTY Franklin TOWNSHIP Ward SECTION OF TOWNSHIP 4
OWNER B. T. L. Schilling ADDRESS James A. Schilling
LOCATION OF PROPERTY Falkner Rd.

CONSTRUCTION DETAILS

Casing diameter 1.875 Length of casing 25'
Type of screen slt Length of screen 12.2'
Type of pump -
Capacity of pump -
Depth of pump setting -
Date of completion -

BAILING OR PUMPING TEST (specify one by circling)

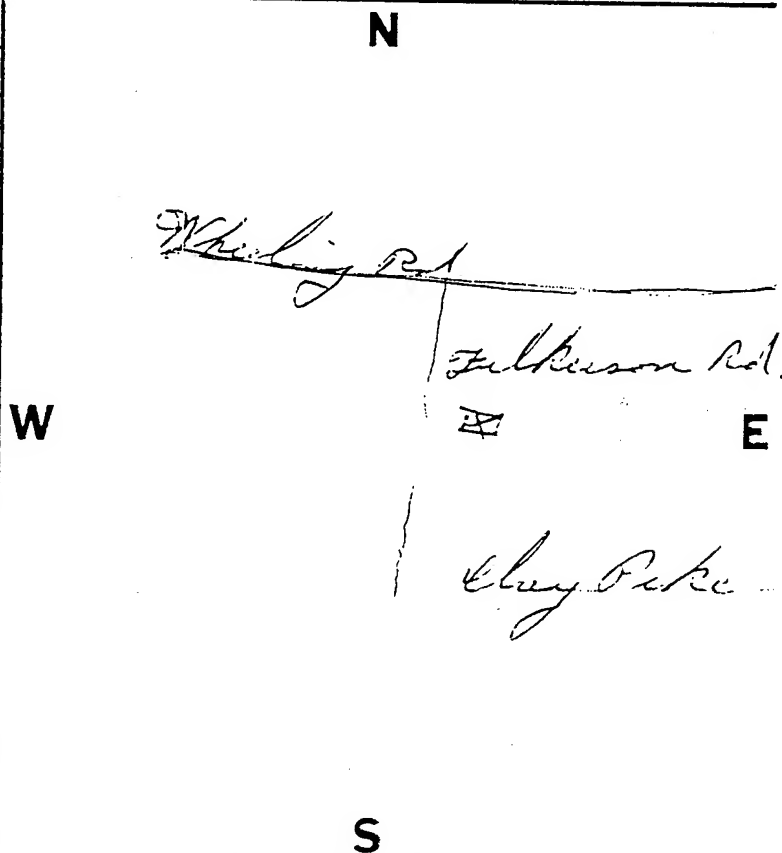
Test rate 2" gpm Duration of test 1 hrs
Drawdown 1.30 ft Date May 1979
Static level (depth to water) 20' ft
Quality (clear) cloudy, taste, odor) -
Pump installed by -

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>tan shale</u>	0 ft	35 ft
<u>limestone</u>	35	38
<u>gray shale</u>	38	40
<u>tan limestone</u>	40	60
<u>shale</u>	60	90
<u>limestone</u>	90	105
<u>gray shale</u>	105	130
<u>Water at 157' - 200 gpm</u>		

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.



DRILLING FIRM B. T. L. Schilling
ADDRESS 50 B. T. L. Schilling Rd.

DATE May 1979
SIGNED J. T. Schilling

*If additional space is needed to complete well log, use next consecutive numbered form.

245

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

497954

COUNTY Wayne TOWNSHIP Wayne SECTION OF TOWNSHIP lot 8
OR LOT NUMBER
OWNER W. Leonard H. Hayes ADDRESS 465 Standrust Circle
LOCATION OF PROPERTY Corner of Fulkerson Rd & Clear Lake Drive

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 38 ft
Type of screen none Length of screen none
Type of pump 5 HP M Sub
Capacity of pump 5 gpm
Depth of pump setting 176
Date of completion 5/19/78

BAILING OR PUMPING TEST

(Specify one by circling)

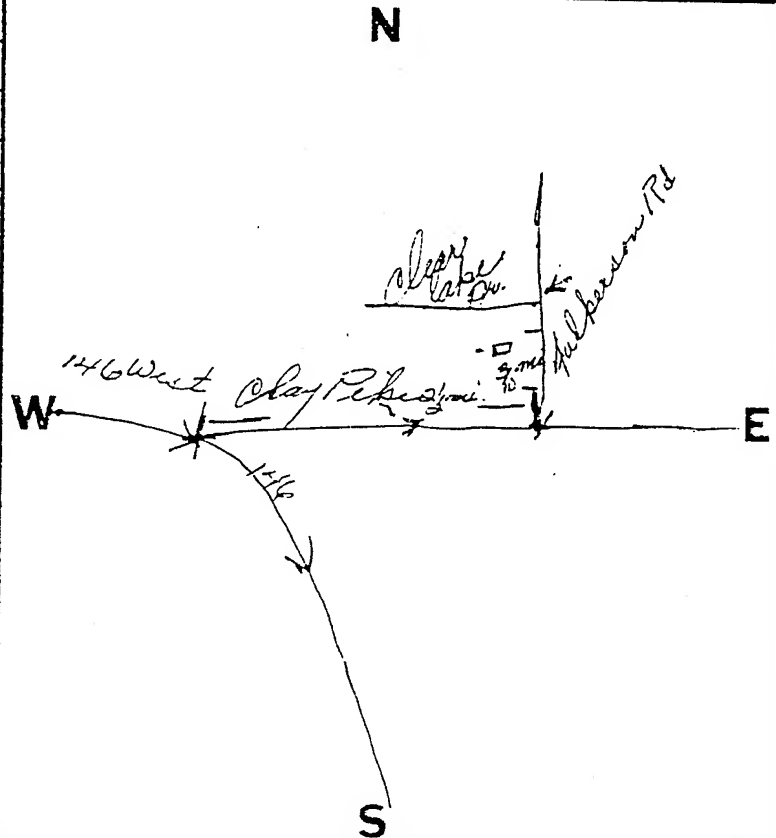
Test rate 4 gpm Duration of test 16 HRS hrs
Drawdown 90 ft Date 5/18 - 5/19/78
Static level (depth to water) 30 ft ft
Quality (clear, cloudy, taste, odor) no odor or taste
Pump installed by Gary Andersen

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Top Soil	0 ft	4 ft
Brown Clay	4	15
Gray Clay	15	27
Red Clay	27	39
Orange line Stone	39	43
Gray line Rock	43	47
Gray Shale water	47	51
Gray Clay	51	54
Sand Stone	57	57
Gray Clay	57	68
Gray Shale	68	69
Blue Shale	69	75
Gray Shale	75	111
Gray Clay	111	113.4

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.



DRILLING FIRM Gary Andersen
ADDRESS 900 Virginia Ridge Rd

DATE 5/24/78
SIGNED Gary Andersen Sr.

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 404089

County Muskingum Township Wayne Section of Township _____

Owner O. E. Blackford #3 Address Rt. 4 Zanesville, Ohio

Location of property 4 Miles Off St. Rt. 40 on Co. Rd. 5

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 43'
Type of screen _____ Length of screen _____
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion 4-17-70

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 8 G.P.M. Duration of test _____ hrs.
Drawdown 41 ft. Date _____
Static level-depth to water 13 ft.
Quality (clear, cloudy, taste, odor) _____
Pump installed by _____

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	2 Ft.
Clay	2	17
Gray Shale	17	21
Dark Shale	21	30
Gray Shale	30	40
Sand Rock	40	41 TD

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

N.

#1 Plugged @ 167'
#2 Plugged @ 63'

W.

CO. RD 5

E.

WELL

S.

CO. RD 193

Drilling Firm Suburban Drilling Co., Inc. Date 4-20-70

Address 1950 East Pike
Zanesville, Ohio Signed Bill H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

35

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

448216

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate..... G.P.M. Duration of test..... hrs.
 Drawdown 12 ft. Date 4/28/57
 Static level-depth to water..... ft.
 Quality (clear, cloudy, taste, odor).....
 Pump installed by E. Good Adams

WELL LOG*

SKETCH SHOWING LOCATION

Locate in reference to numbered
State Highways, St. Intersections, County roads, etc.

W.

5.

Date 4-8-73

Signed _____

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

601962

COUNTY Muskingum TOWNSHIP Wayne SECTION OF TOWNSHIP _____
OWNER Louis VanBeldum ADDRESS 3885 Clay Pike
LOCATION OF PROPERTY Clay Pike

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 18'
Type of screen Perforated Length of screen 76'
Type of pump Submersible
Capacity of pump 12
Depth of pump setting 55 ft
Date of completion Aug 14-1981

BAILING OR PUMPING TEST

(Specify one by circling)

Test rate 5 gpm Duration of test _____ hrs
Drawdown _____ ft Date _____
Static level (depth to water) 18 ft ft
Quality (clear, cloudy, taste, odor) Clear
Pump installed by Swingle Water Well

WELL LOG*

Formations: sandstone, shale,
limestone, gravel, clay

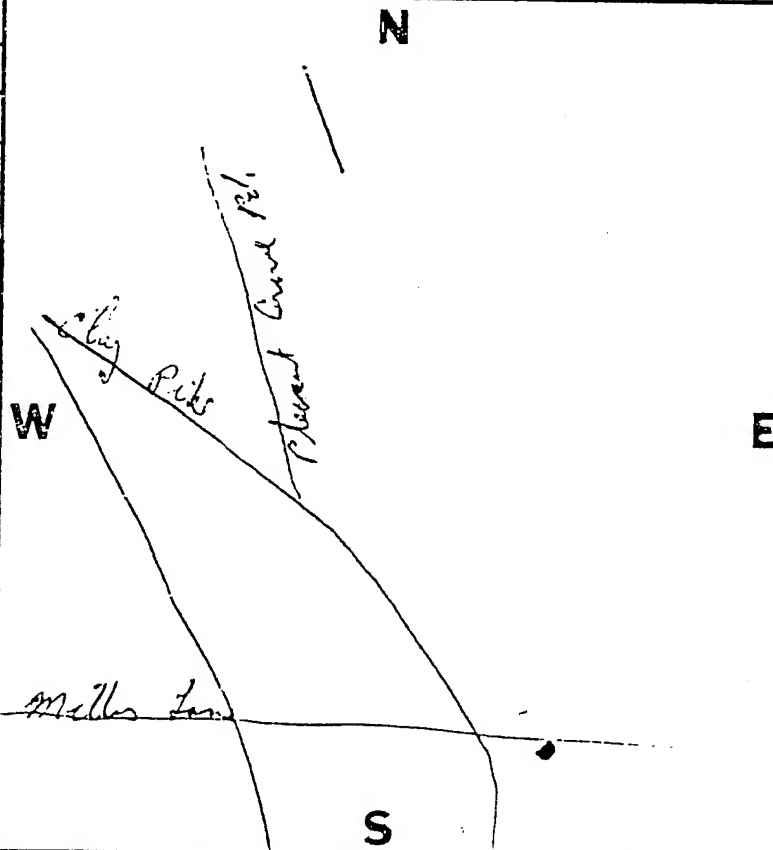
From

To

surface	0 ft	3 ft
brown shale	3	20
shale	20	35
sandstone	35	37
shale	57	58

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.



Donald G. Swingle

DRILLING FIRM Swingle Water Well Drilling

ADDRESS 3480 Moxahala Pl. Rd.

Zanesville, Ohio 43701

DATE Aug 16 - 1981

SIGNED Donald Swingle

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

37

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

609170

COUNTY Muskingum TOWNSHIP Waver SECTION OF TOWNSHIP 6
OWNER Robert Fuller ADDRESS 4370 Clay Pike
LOCATION OF PROPERTY on the south side of clay pike approx 1 mile North of Carwick

CONSTRUCTION DETAILS

Casing diameter 2 Length of casing 36'
Type of screen _____ Length of screen _____
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

(BAILING OR PUMPING TEST

(Specify one by circling)

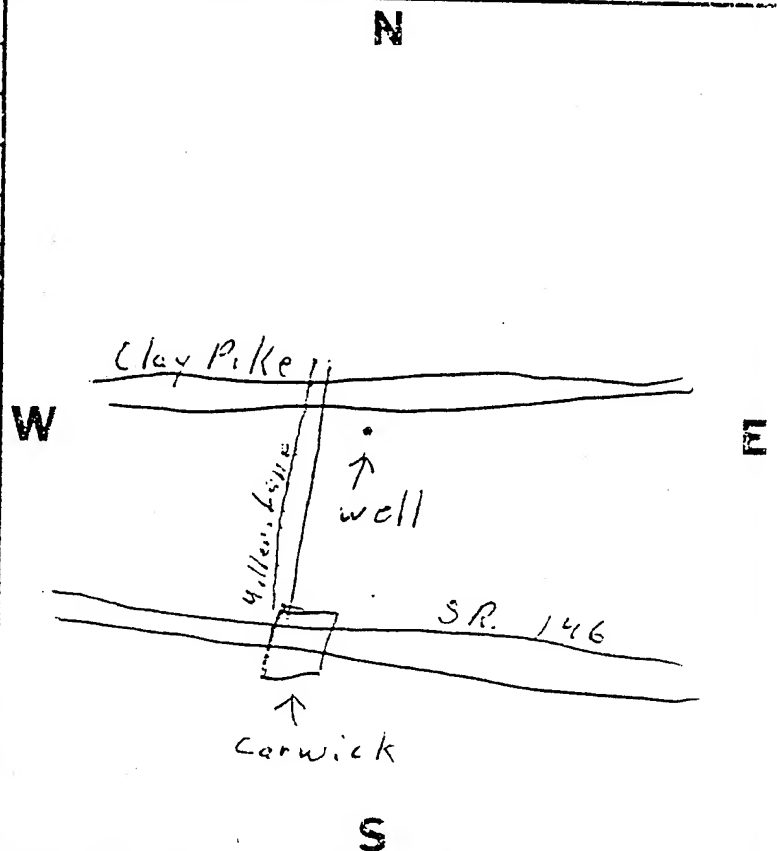
Test rate 1 gpm Duration of test 1 hrs
Drawdown 75 ft Date 10-6-82
Static level (depth to water) 50 ft
Quality (clear, cloudy, taste, odor) clear & odor
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>Loam</u>	<u>0 ft</u>	<u>11 ft</u>
<u>Gray Clay</u>	<u>11</u>	<u>28</u>
<u>sandy shale</u>	<u>28</u>	<u>31</u>
<u>soft shale</u>	<u>31</u>	<u>35</u>
<u>Sand stone</u>	<u>35</u>	<u>52</u>
<u>sandy shale</u>	<u>52</u>	<u>125</u>
<u>Trace of water at 50' More at 80'</u>		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Rumsey Drilling
ADDRESS 2945 Chandlersville Rd

DATE 10-6-82
SIGNED William B. Rumsey

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

(38)

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

496070

COUNTY MUSKIEGON TOWNSHIP WAYNE SECTION OF TOWNSHIP OR LOT NUMBER 6
OWNER GARY TYSONER ADDRESS 312 NORTH ST DUNCAN FALLS, C
LOCATION OF PROPERTY ON SOUTH SIDE OF CLAY PIKE ABOUT 1/2 MI EAST MILLERS LANE

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST (Specify one by circling)

Casing diameter 3" PUMP Length of casing 100
Type of screen 1/2" HOLE Length of screen 65 FT
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____
Test rate 36 GPM Duration of test 2 hrs
Drawdown 80' ft Date _____
Static level (depth to water) 23 ft
Quality (clear, cloudy, taste, odor) Clear
no odor
Pump installed by _____

WELL LOG*

SKETCH SHOWING LOCATION

Formations: sandstone, shale,
limestone, gravel, clay

From

To

Locate in reference to numbered
state highways, street intersections, county roads, etc.

FULLY LOAM	0 ft	3 ft
SHALE	3	32
SANDY SHALE	32	45
GRAV CLAY	45	51
SHALE	51	71
DARK SHALE	71	78
SAND POC	78	83
SANDY SHALE	83	100'

W

Clay PIKE

MILLERS LANE

FULLERS
GOLF

E

S

DRILLING FIRM R.C. Ramsey
ADDRESS 2945 Chandlersville Rd.
Zanesville, Ohio 43701

DATE 4-16-76
SIGNED R.C. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

39

County Permit No. _____

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBINGState of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

545374

COUNTY MUSKINGUM TOWNSHIP WAYNE SECTION OF TOWNSHIP 6
OWNER ROBERT FULLER ADDRESS MILLERS LANE ZANESVILLE
LOCATION OF PROPERTY ON EAST SIDE OF MILLERS LANE APPROX. SOUTH OF CLAY PIKE

CONSTRUCTION DETAILS

Casing diameter 6 7/8" PLASTIC Length of casing 26'-6"
Type of screen 1 Length of screen
Type of pump SUB
Capacity of pump 300-400 GPH
Depth of pump setting 90'
Date of completion

BAILING OR PUMPING TEST

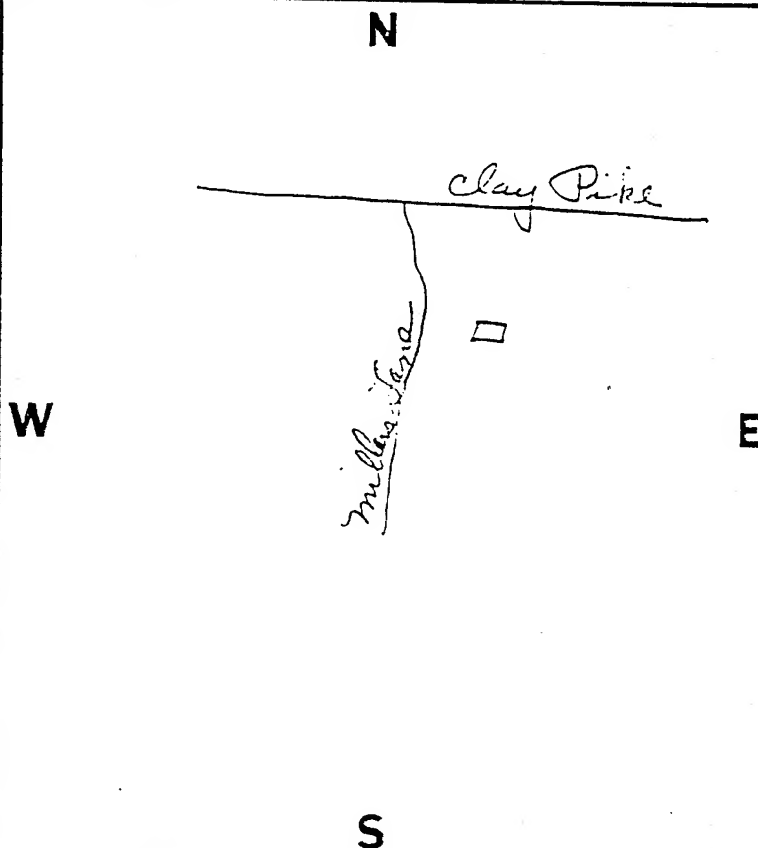
(Specify one by circling)

Test rate 40 GPH ~~GPM~~ Duration of test hrs
Drawdown 20 ft Date
Static level (depth to water) 20 ft
Quality (clear, cloudy, taste, odor) Clear
Pump installed by Contractor

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>Frank clay</u>	<u>0 ft</u>	<u>3 ft</u>
<u>Sandy clay</u>	<u>3</u>	<u>11</u>
<u>Sandstone</u>	<u>11</u>	<u>28</u>
<u>Show of Coal</u>	<u>28</u>	<u>29</u>
<u>Sandy shale</u>	<u>29</u>	<u>74</u>
<u>Brown shale</u>	<u>74</u>	<u>78</u>
<u>Sandy shale</u>	<u>78</u>	<u>100+</u>
<u>water app 28-30</u>		
<u>water app 92'</u>		

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.DRILLING FIRM R.C. Ramsey2945 CHERRY ST. S.W.
BIRMINGHAM, ALA. 35201DATE 11-1-80SIGNED RC Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

(40)

ORIGINAL

Nº 299456

04.10

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

609200

COUNTY Mustkinguin TOWNSHIP Salt Creek SECTION OF TOWNSHIP 4
OWNER Joseph & Susan Gormley ADDRESS 6535 Clay Pike
LOCATION OF PROPERTY ON The North side of Clay Pike approx 6 Mi. east of Jones

CONSTRUCTION DETAILS

Casing diameter 6 5/8" Length of casing 122'
Type of screen 1/4" slots Length of screen 35'
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

(Specify one by circling)

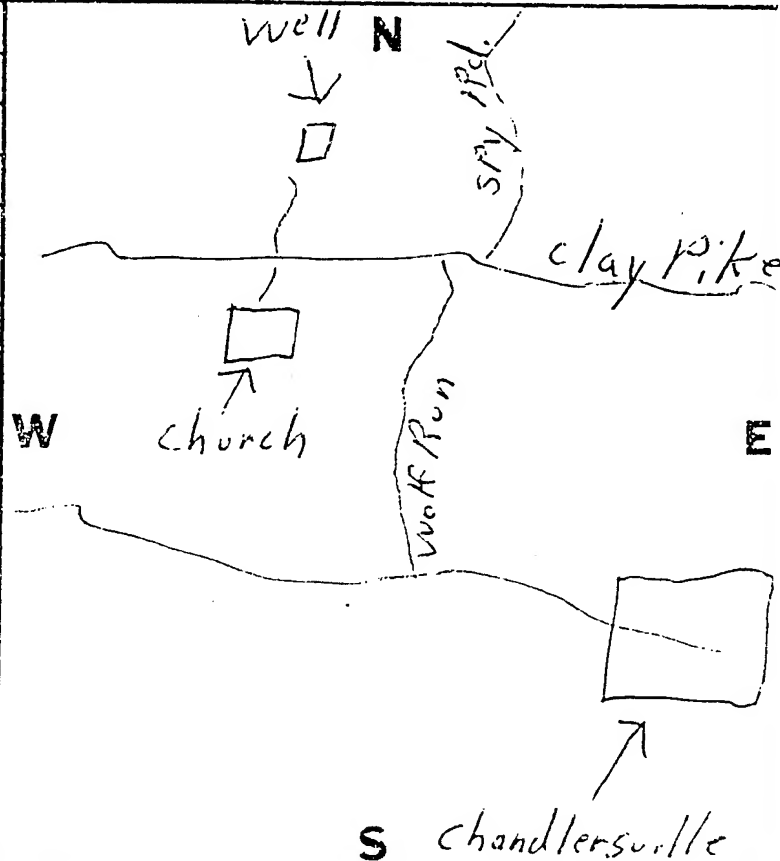
Test rate 5 gpm Duration of test 1 hrs
Drawdown 85 ft Date 9-5-84
Static level (depth to water) 35 ft
Quality (clear, cloudy, taste, odor) clear (no odor)
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Loom	0 ft	4 ft
Running Creek sand	4	18
Soft gray shale	18	47
Sandy shale	47	91
Coal streaks	91	95
sandy shale	95	96
soft white clay	96	99
Soft gray shale	99	113
sandy shale	113	124
Sand stone	124	143
sandy shale	143	160
Water AT 47 and 62 Feet		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Ramsey Drilling
ADDRESS 2945 Chandlerville Rd

DATE 9-9-84
SIGNED William B. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

3

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY -
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592569

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP _____
OWNER Ron Lafferty ADDRESS 6100 Park Lane
LOCATION OF PROPERTY 6100 Park Lane Norwich

CONSTRUCTION DETAILS

Casing diameter 1.5 OD Length of casing 2.3
Type of screen perforated casing Length of screen 100
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

(Specify one by circling)

Test rate 1 gpm Duration of test 2 hrs
Drawdown 134' ft Date Oct 16 81
Static level (depth to water) 57 ft
Quality (clear, cloudy, taste, odor) clear
Pump installed by _____

WELL LOG*

Formations: sandstone, shale,
limestone, gravel, clay

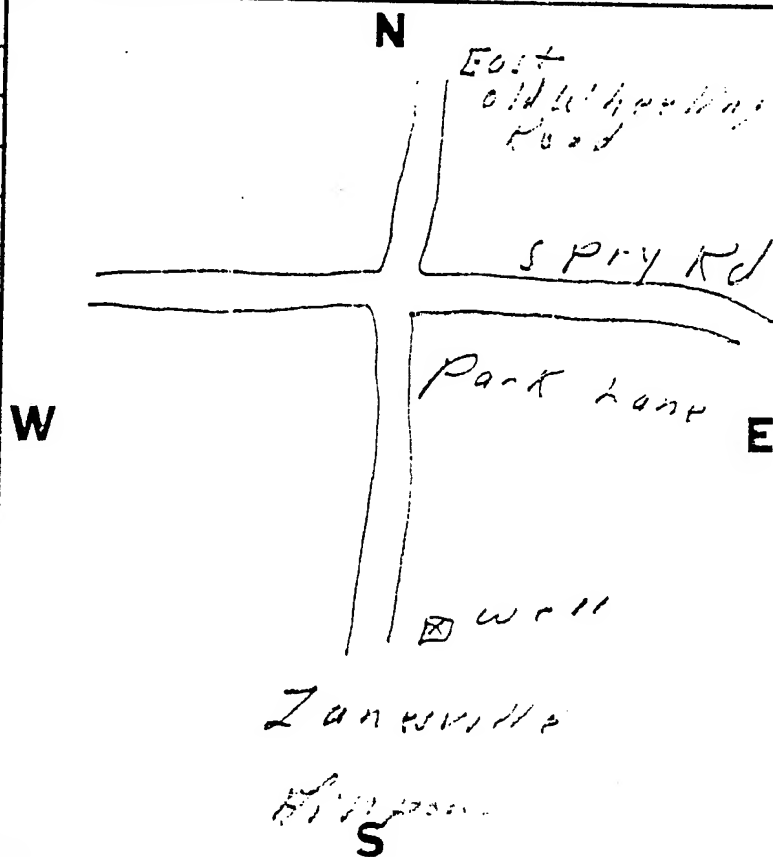
From

To

<u>Brown Shale</u>	<u>0 ft</u>	<u>14 ft</u>
<u>Brown Sand Rock</u>	<u>14</u>	<u>34</u>
<u>White Sand Rock</u>	<u>34</u>	<u>51</u>
<u>Gray Shale</u>	<u>51</u>	<u>61</u>
<u>S.S.</u>	<u>61</u>	<u>63</u>
<u>White Sand Rock</u>	<u>63</u>	<u>97</u>
<u>Gray Shale</u>	<u>97</u>	<u>101</u>
<u>Pool</u>	<u>101</u>	<u>103</u>
<u>White Sand Rock</u>	<u>103</u>	<u>119</u>
<u>Gray Soft Shale</u>	<u>119</u>	<u>134</u>
<u>Water at 73</u>		
<u>Total Depth</u>	<u>134</u>	

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.



DRILLING FIRM Hoderson Drilling
ADDRESS 112 Willow Dr

DATE Oct 16, 1981
SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

66

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

COUNTY Marion TOWNSHIP Perry SECTION OF TOWNSHIP 3 or 23
OWNER Tom & Kathy Riskey ADDRESS Southern Rd, Norwalk, Ohio
LOCATION OF PROPERTY on north side of Park Lane app 1/2 mi west of S. Rd

[illegible]

DATE 9-17-78
SIGNED RC Ramirez

*If additional space is needed to complete well log, use next consecutive numbered form.

67

WELL LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592577

COUNTY Wayne TOWNSHIP Wayne SECTION OF TOWNSHIP 1
OWNER Wayne County ADDRESS 113 So Willow Dr
LOCATION OF PROPERTY 113 So Willow Dr

CONSTRUCTION DETAILS

BAILING OR PUMPING TEST

(specify one by circling)

Casing diameter 4 Length of casing 1
Type of screen 4 Length of screen 1
Type of pump 4
Capacity of pump 4
Depth of pump setting 1
Date of completion Feb 1 1982

Test rate 5 gpm Duration of test 2 hrs
Drawdown 1 ft Date Feb 1 1982
Static level (depth to water) 22 ft
Quality (clear, cloudy, taste, odor) 1
Pump installed by Wayne County

WELL LOG*

SKETCH SHOWING LOCATION

Formations: sandstone, shale,
limestone, gravel, clay

From

To

Locate in reference to numbered
state highways, street intersections, county roads, etc.

<u>Surface</u>	0 ft	0 ft
<u>Gravel</u>		
<u>Sandstone</u>	20	30
<u>Shale</u>	32	45
<u>Limestone</u>		49
<u>Sandstone</u>	69	74
<u>Gravel</u>	70	75
<u>Shale</u>	70	126
<u>Sandstone</u>	120	131
<u>White Sandstone</u>	131	140
<u>Water</u>	142	
<u>Total Depth</u>	150	

W

E

S

DRILLING FIRM Anderson Drilling

DATE Feb 1 1982

ADDRESS 113 So Willow Dr

SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

68

WF' L LOG AND DRILLING REPORT

NO CARBON PAPER
NECESSARY-
SELF-TRANSCRIBING

DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592937

COUNTY Franklin TOWNSHIP Verona SECTION OF TOWNSHIP 19
OWNER Wm. J. Johnson ADDRESS E. Whiting Rd
LOCATION OF PROPERTY E. Whiting Rd

CONSTRUCTION DETAILS

Casing diameter 6.5" Length of casing 24'-1"
Type of screen perf. 5" 7/8" Length of screen 1-2 1/2"
Type of pump _____
Capacity of pump _____
Depth of pump setting _____
Date of completion _____

BAILING OR PUMPING TEST

~~(specify one by circling)~~

Test rate 1.5 gpm Duration of test 1 hr
Drawdown 8.5 ft Date Feb 1983
Static level (depth to water) 5-8 ft
Quality (clear, cloudy, taste, odor) _____
Pump installed by _____

WELL LOG*

[illegible]

SKETCH SHOWING LOCATION

Locate in reference to numbered
state highways, street intersections, county roads, etc.

A hand-drawn map showing a road intersection. A vertical line on the left is labeled 'W' at the top and 'S' at the bottom. A horizontal line crosses it, labeled 'East Wheeling Rd.' in the center. A diagonal line from the bottom right crosses the horizontal line, labeled 'Salt Creek' in the center. A small square symbol is on the horizontal line near the intersection. The word 'Spz Rd.' is written near the bottom left. Directional markers 'N' (North) and 'E' (East) are at the top and right, respectively.

DRILLING FIRM B-L
ADDRESS 2760 Brown Rd.

DATE 11/22/1983
SIGNED [Signature]

* If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

15
















THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B

BORING LOGS

THIS PAGE INTENTIONALLY LEFT BLANK

KEY TO BORING LOG SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2487						
MAJOR DIVISIONS			SYMBOL/ GRAPHIC		DESCRIPTIONS	
COARSE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	GRAVELS	Clean gravels with little or no fines	GW		Well-Graded Gravels, Gravel - Sand Mixtures	
			GP		Poorly Graded Gravels, Gravels - Sand Mixtures	
		Gravels with over 12% fines	GM		Silty Gravels, Poorly Graded Gravel-Sand-Clay Mixtures	
			GC		Clayey Gravels, Poorly Graded Gravel-Sand-Clay Mixtures	
	SANDS	Clean sands with little or no fines	SW		Well-Graded Sands, Gravelly Sands	
			SP		Poorly Graded Sands, Gravelly Sands	
		(More than 50% of coarse fraction is smaller than the #4 sieve size.)	Sands with over 12% fines	SM		Silty Sands, Poorly Graded Sand-Silt Mixtures
				SC		Clayey Sands, Poorly Graded Sand-Clay Mixtures
FINE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML		Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands	
			CL		Inorganic Clays of Low to Medium Plasticity: Gravelly, Sandy or Silty Clays; Lean Clays	
			OL		Organic Clays and Organic Silty Clays of Low Plasticity	
	SILTS AND CLAYS (Liquid limit greater than 50)		MH		Inorganic Silts, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silts	
			CH		Inorganic Clays of High Plasticity Fat Clays	
			OH		Organic Clays of Medium to High Plasticity, Organic Silts	
HIGHLY ORGANIC SOILS			Pt		Peat and Other Highly Organic Soils	



Sample retained for on-site screening.



Sample prepared for laboratory analysis.



Water Table Level

PID Photo-Ionization Detector readings (ppm)



Asphaltic Concrete



Portland Cement Concrete



Cement Grout



Boulders or Bedrock

FIGURE E.1

KEY TO BORING LOG
220th EIS, Zanesville ANG
Zanesville, Ohio

O P T E C H
OPERATIONAL TECHNOLOGIES
CORPORATION

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	878.1 ft.
Drilling Method:	Hollow Stem Auger		

[illegible]

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	877.0 ft.
Drilling Method:	Hollow Stem Auger		



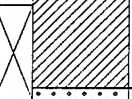
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
18 9 5		100	X		Silt and clay loam, light brown to tan, dry and cohesive, few rock fragments. USCS: CH	-	-	ND	ND
5 5 9 11		100	X		Silt and clay loam, few sand grains, shale and quartz fragments, slightly mottled, moist and cohesive USCS: CH	-	-	ND	ND
10 5 11 19		100	X		Sand, brown and mottled to tan to white, moist. USCS: SW	-	-	ND	ND
					Boring Terminated at 11.5 ft.				

220th EIS, Ohio Air National Guard

Zanesville, OH





O P T E C H**OPERATIONAL TECHNOLOGIES
CORPORATION****LOG OF BORING A-003BH**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	876.6 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
10 9 5		100	X		Clay loam, light tan, hard, dry and very cohesive, some rock fragments.	-	-	ND	ND
					USCS: CH				
5 8 10 15		100	X		Silty, clay loam, shale and quartz fragments, brown, moist, and very cohesive.	-	-	ND	ND
					USCS: CH				
10 4 12 23		100	X		Sand, tan to light tan, moist.	-	-	ND	ND
					USCS: SW				
15					Boring Terminated at 11.5 ft.				

LOG OF BORING A-004BH

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	14.2 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	875.8 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
14 9 6		100	✓		Silty clay loam, light brown and slightly moist, some organic particles. USCS: CH	0.0	0.0	ND	ND
5 4 9 11		90	✗		Sand and silt loam, brown, very fine, cohesive and moist. USCS: CH	0.0	4.8	ND	ND
10 2 12 35		90	△		Sand and silt, clay loam, cohesive and slightly moist. USCS: CH Sand, mottled, light brown to tan, little silt, slightly moist. USCS: SW	0.0	-	ND	ND
15 50		0	✗		Sand, mottled. Sandstone and shale at bottom of borehole, slightly moist. USCS: SW Boring Terminated at 14.2 ft.	-	-	-	-

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	875.6 ft.
Drilling Method:	Hollow Stem Auger		

[illegible]

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

LOG OF BORING A-006BH

Project No.:	1308-191
Logged By:	Earl Parker
Drilling Co.:	Jones Environmental Drilling, Inc.
Driller:	Rob Copeland
Date Drilled:	6/2/94
Drilling Method:	Hollow Stem Auger

Sampling Method:	California Style Sampler
Depth Drilled:	11.5 ft.
Depth To Water:	Not Encountered
Date Measured:	N/A
Surface Elevation:	874.8 ft.

[illegible]

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	876.4 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
5	5 10 17	100			Clay loam, very cohesive and hard, light tan, dry. USCS: CH	-	-	ND	ND
5	4 8 13	100			Clay loam, shale and quartz fragments, light brown, slightly moist. USCS: CH	-	-	ND	ND
10	5 10 8	100			Sand, mottled, tan to white, slightly moist. USCS: SW Boring Terminated at 11.5 ft.	-	-	ND	ND

Zanesville, OH

OPERATIONAL TECHNOLOGIES
CORPORATION

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/3/94	Surface Elevation:	880.5 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
0 - 8	13 13 8	100	X	[Hatched pattern]	Silty clay loam, shale fragments, mottled, slightly moist and cohesive.	-	-		
8 - 14	8 10 14	100	X	[Hatched pattern]	Silty clay loam, shale and quartz fragments, slightly moist, cohesive, brown. USCS: CH	-	-		
11 - 16	11 11 16	100	X	[Dotted pattern]	Sand with little silt, brown to tan to white, moist and cohesive. USCS: SM	-	-		
Boring Terminated at 11.5 ft.									

Zanesville, OH

**OPERATIONAL TECHNOLOGIES
CORPORATION**

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/3/94	Surface Elevation:	880.0 ft.
Drilling Method:	Hollow Stem Auger		

[illegible]

LOG OF BORING B-003BH

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	15.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/3/94	Surface Elevation:	879.7 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING			
						PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
29 15 8		100	X		Silty clay loam. shale and quartz fragments, dry and cohesive.	-	-		
					USCS: CH				
5 6 7 12		100	X		Silty clay loam with sand stringers, shale fragments, moist and cohesive.	-	-		
					USCS: CH				
10 5 6 6		100	X		Sand with little silt, light brown to white, moist and cohesive. Weathered sandstone at bottom of borehole.	-	-		
					USCS: SM				
15 33 34 50			X			-	-		
					Boring Terminated at 15.5 ft.				

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX C

SCREENING RESULTS

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix - C
GC Screening Results - Soil
220th EIS, Zanesville ANG, Zanesville, Ohio

Boring	Sample Interval (ft. BLS)	Sample Mass (grams)	Volatile Concentrations				Total BTEX (ppb)
			Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
CAL - 01	STD	NA	2,411	1,714		4,046.5	8,171.5
CAL - 02	STD	NA	801.2	978.7	981.4	1,849.4	4,610.4
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
SOIL PRACTICE	NA	10	ND	ND	ND	ND	ND
CAL	NA	NA	863	897.4	683.1	2,186.6	4,630.1
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
CAL 1	NA	NA	451.1	377	178.8	508.6	1,515.5
A - 4	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 4	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 4	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 5	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 5	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 5	10.5 - 11.5	10	ND	ND	ND	ND	ND
A - 6	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 6	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 6	10.5 - 11.5	10	ND	ND	ND	ND	ND
CAL	NA	NA	236.1	179.7	85.7	309.2	910.7
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
A - 7	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 7	5.0 - 6.5	10	ND	ND	ND	ND	ND

Appendix - C (Concluded)
GC Screening Results - Soil
220th EIS, Zanesville ANG, Zanesville, Ohio

Boring	Sample Interval (ft. BLS)	Sample Mass (grams)	Volatile Concentrations				Total BTEX (ppb)
			Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
A - 7	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 3	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 3	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 3	10.5 - 11.5	10	ND	ND	ND	ND	ND
A - 1	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 1	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 1	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 2	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 2	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 2	10.0 - 11.5	10	ND	ND	ND	ND	ND
CAL	NA	NA	270.9	202.3	100	303.6	876.8
AIR BLANK	NA	NA	ND	ND	ND	ND	ND

BLS - Below land surface.
ppb - Parts per billion.
ND - Non detect.
NA - Not applicable.
CAL - Calibration.
STD - Standard.

CAL - 01

CAL-02

AIR BLANK

PHOTODUAC

STOP 4 SAMPLE
SAMPLE LIBRARY 1 JUN 1 1994 15:40
ANALYSIS # 4 ZANESVILLE TO ST
INTERNAL TEMP 22 1-IBR000A
GAIN 2 SOIL PRACTICE
CAPACITOR FULL PEAK N.T. WREATH
ELECTRON 1 5.0 6 112.1 500g

SOIL PRACTICE

PHOTODUAC

STOP 4 SAMPLE
SAMPLE LIBRARY 1 JUN 1 1994 15:40
ANALYSIS # 4 ZANESVILLE TO ST
INTERNAL TEMP 22 1-IBR000A
GAIN 2 SOIL PRACTICE
CAPACITOR FULL PEAK N.T. WREATH
ELECTRON 1 5.0 6 112.1 500g

CAL

PHOTODUAC

STOP 4 SAMPLE
SAMPLE LIBRARY 1 JUN 2 1994 8:10
ANALYSIS # 5 ZANESVILLE TO ST
INTERNAL TEMP 24 1-IBR000A
GAIN 2 CAL
CAPACITOR FULL PEAK N.T. WREATH
ELECTRON 1 21.0 0.1 2.0
ELECTRON 2 21.0 0.1 2.0
ELECTRON 3 11.2 2.0 2.0
ELECTRON 4 11.2 2.0 2.0
ELECTRON 5 22.8 1.0 1.0
ELECTRON 6 11.0 1.0 1.0
ELECTRON 7 11.0 1.0 1.0
ELECTRON 8 11.0 1.0 1.0

1	CAPACITOR	ID #	N.T.	MODE
1	BENZENE	1	24.4	1.000 PPD
2	TOLUENE	2	145.6	1.000 PPD
3	ETHYLBENZENE	3	314.2	1.000 PPD
4	O,P-XYLENE	4	333.4	2.000 PPD
5	m-XYLENE	5	422.5	1.000 PPD

1	CAPACITOR	ID #	N.T.	MODE
1	BENZENE	1	24.4	1.000 PPD
2	TOLUENE	2	145.6	1.000 PPD
3	ETHYLBENZENE	3	314.2	1.000 PPD
4	O,P-XYLENE	4	333.4	2.000 PPD
5	m-XYLENE	5	422.5	1.000 PPD

<p>AIR BLANK</p> <p>PHOTOVAC</p> <p> Shot # 1000000 Shot Date 10/10/94 Shot Time 10:00:00 Shot Location 1000000 Shot Depth 1000000 Shot Status 1000000 </p>	<p>CAL 1</p> <p>PHOTOVAC</p> <p> Shot # 1000000 Shot Date 10/10/94 Shot Time 10:00:00 Shot Location 1000000 Shot Depth 1000000 Shot Status 1000000 </p>	<p>A-4, 0.0'-1.5' BLS</p> <p>PHOTOVAC</p> <p> Shot # 1000000 Shot Date 10/10/94 Shot Time 10:00:00 Shot Location 1000000 Shot Depth 1000000 Shot Status 1000000 </p>	<p>A-4, 5.0'-6.5' BLS</p> <p>PHOTOVAC</p> <p> Shot # 1000000 Shot Date 10/10/94 Shot Time 10:00:00 Shot Location 1000000 Shot Depth 1000000 Shot Status 1000000 </p>
--	--	---	---

A-4, 10.0'-11.5' BLS

PHOTOVAC

SAMPLE LIBRARY # 10 JUN 2 1994 12.30
ANALYST # 12 ZOOESVILLE-PA SI
INTERNAL TEMP 25 1 BROWN
GAIN 2 0.5 0.0-1.5 mV

A-5, 0.0'-1.5' BLS

PHOTOVAC

SAMPLE LIBRARY # 10 JUN 2 1994 13.30
ANALYST # 12 ZOOESVILLE-PA SI
INTERNAL TEMP 25 1 BROWN
GAIN 2 0.5 0.0-1.5 mV

A-5, 5.0'-6.5' BLS

PHOTOVAC

SAMPLE LIBRARY # 10 JUN 2 1994 14.30
ANALYST # 12 ZOOESVILLE-PA SI
INTERNAL TEMP 25 1 BROWN
GAIN 2 0.5 0.0-1.5 mV


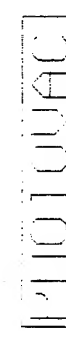
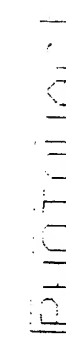
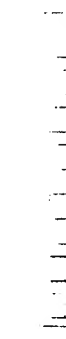
A-5, 10.5'-11.5' BLS

PHOTOVAC

SAMPLE LIBRARY # 10 JUN 2 1994 15.30
ANALYST # 12 ZOOESVILLE-PA SI
INTERNAL TEMP 25 1 BROWN
GAIN 2 0.5 0.0-1.5 mV

A-6, 0.0'-1.5' BLS	A-6, 5.0'-6.5' BLS	A-6, 10.5'-11.5' BLS	CAL
<p>PHOTOVAC</p> <p>Shot # 1000000 Satellite 1000000 6000000000 Initial 1000000 0000000000</p>	<p>PHOTOVAC</p> <p>Shot # 1000000 Satellite 1000000 6000000000 Initial 1000000 0000000000</p>	<p>PHOTOVAC</p> <p>Shot # 1000000 Satellite 1000000 6000000000 Initial 1000000 0000000000</p>	<p>PHOTOVAC</p> <p>Shot # 1000000 Satellite 1000000 6000000000 Initial 1000000 0000000000</p>

AIR BLANK	A-7, 0.0'-1.5' BLS	A-7, 5.0'-6.5' BLS	A-7, 10.0'-11.5' BLS
<p>PHOTOVAC</p> <p>Sheet # 1</p> <p>Slide # 580.0</p> <p>SAMPLE LIBRARY 1 JUN 2 1994 15:12</p> <p>ANALYSIS # 20 ZOOLOGICAL-PH-SI</p> <p>INTERNAL TEMP 25 1-HOURS</p> <p>WAVE 2 0-2 0.0-1.5 BLS</p> <p>LIBRARY TEMP 11.0 0.1 0.1 1.0</p> <p>IR-TEMP 1 20.3 0.3 0.3</p>	<p>PHOTOVAC</p> <p>Sheet # 1</p> <p>Slide # 580.0</p> <p>SAMPLE LIBRARY 1 JUN 2 1994 15:12</p> <p>ANALYSIS # 21 ZOOLOGICAL-PH-SI</p> <p>INTERNAL TEMP 25 1-HOURS</p> <p>WAVE 2 0-2 0.0-1.5 BLS</p> <p>LIBRARY TEMP 11.0 0.1 0.1 1.0</p> <p>IR-TEMP 1 20.3 0.3 0.3</p>	<p>PHOTOVAC</p> <p>Sheet # 1</p> <p>Slide # 580.0</p> <p>SAMPLE LIBRARY 1 JUN 2 1994 15:12</p> <p>ANALYSIS # 21 ZOOLOGICAL-PH-SI</p> <p>INTERNAL TEMP 25 1-HOURS</p> <p>WAVE 2 0-2 0.0-1.5 BLS</p> <p>LIBRARY TEMP 11.0 0.1 0.1 1.0</p> <p>IR-TEMP 1 20.3 0.3 0.3</p>	<p>PHOTOVAC</p> <p>Sheet # 1</p> <p>Slide # 580.0</p> <p>SAMPLE LIBRARY 1 JUN 2 1994 15:12</p> <p>ANALYSIS # 21 ZOOLOGICAL-PH-SI</p> <p>INTERNAL TEMP 25 1-HOURS</p> <p>WAVE 2 0-2 0.0-1.5 BLS</p> <p>LIBRARY TEMP 11.0 0.1 0.1 1.0</p> <p>IR-TEMP 1 20.3 0.3 0.3</p>

A-3, 0.0'-1.5' BLS	A-3, 5.0'-6.5' BLS	A-3, 10.5'-11.5' BLS	A-1, 0.0'-1.5' BLS
 <p>PHOTOGRAPH</p>	 <p>PHOTOGRAPH</p>	 <p>PHOTOGRAPH</p>	 <p>PHOTOGRAPH</p>

A-1, 5.0'-6.5' BLS	A-1, 10.0'-11.5 BLS	A-2, 0.0'-1.5' BLS	A-2, 5.0'-6.5' BLS
<div data-bbox="600 1669 665 1984" data-label="Text">PHOTOVAC</div> <div data-bbox="1006 1659 1104 1995" data-label="Text"> <p>SAMPLE LIBRARY # 28 JUN 2 1959 1615H ANALYSTS # 28 SMOKEVILLE-PP-51 INTERNO. TEL# 26 1-1868A GAIN 2 4-1 12.5-11.5 BLS COR. COEFF. 1.000 TEL# 1.1 TEL# 1.1 REFLECT. 1 1.1 1.1 1.1</p> </div>	<div data-bbox="657 1155 722 1470" data-label="Text">PHOTOVAC</div> <div data-bbox="1055 1134 1153 1491" data-label="Text"> <p>SAMPLE LIBRARY # 28 JUN 2 1959 1615H ANALYSTS # 28 SMOKEVILLE-PP-51 INTERNO. TEL# 26 1-1868A GAIN 2 4-1 12.5-11.5 BLS COR. COEFF. 1.000 TEL# 1.1 TEL# 1.1 REFLECT. 1 1.1 1.1 1.1</p> </div>	<div data-bbox="665 640 730 955" data-label="Text">PHOTOVAC</div> <div data-bbox="1063 630 1161 966" data-label="Text"> <p>SAMPLE LIBRARY # 28 JUN 2 1959 1615H ANALYSTS # 28 SMOKEVILLE-PP-51 INTERNO. TEL# 26 1-1868A GAIN 2 4-1 12.5-11.5 BLS COR. COEFF. 1.000 TEL# 1.1 TEL# 1.1 REFLECT. 1 1.1 1.1 1.1</p> </div>	<div data-bbox="673 115 738 430" data-label="Text">PHOTOVAC</div> <div data-bbox="1071 105 1169 451" data-label="Text"> <p>SAMPLE LIBRARY # 28 JUN 2 1959 1615H ANALYSTS # 28 SMOKEVILLE-PP-51 INTERNO. TEL# 26 1-1868A GAIN 2 4-1 12.5-11.5 BLS COR. COEFF. 1.000 TEL# 1.1 TEL# 1.1 REFLECT. 1 1.1 1.1 1.1</p> </div>

A-2, 10.0'-11.5' BLS

PHOTOVAC

PHOTOVAC

CAL

PHOTOVAC

PHOTOVAC

AIR BLANK

PHOTOVAC

PHOTOVAC

PHOTOVAC

PHOTOVAC

PHOTOVAC

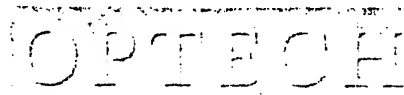
PHOTOVAC

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D

SITE INSPECTION DERIVED WASTE MANAGEMENT

THIS PAGE INTENTIONALLY LEFT BLANK



OPERATIONAL TECHNOLOGIES
CORPORATION

July 26, 1994

Mr. Roger Jones
121 SG/EM
Rickenbacker Air National Guard Base
7556 S. Perimeter Rd.
Columbus, OH 43217-5910

Dear Mr. Jones:

I am writing you concerning the contents of nine drums of site inspection-derived waste which was generated during the recent Site Inspection at the 220th Engineering Installation Squadron, Zanesville ANG. Eight of these drums contain soil cuttings and one contains decontamination water. The attached table contains the recommended disposition for each of these drums. These recommendations are based on guidance provided by Mr. John Rochotte of the Ohio Environmental Protection Agency (OEPA) in a letter dated January 11, 1994 (copy provided), as well as in recent discussions with Mr. Rochotte. Soil cuttings with detected contaminants below action levels are to be disposed of as solid waste, while those with detected contaminants above action levels are to be disposed of as hazardous waste. Soils in which TPH is the only contaminant above action levels may be disposed of in a solid waste landfill which is permitted to receive TPH-contaminated soils. Mr. Rochotte suggested the Muskingum County Sewer Service be contacted to inquire whether the decontamination water could be disposed of in the sanitary sewer at the Station.

Also included with this letter is one table per drum describing the maximum analyte concentrations detected in soils contained in that drum, along with their comparison to action levels. Mr. Dan Wyatt of ANGRC/CEVR requested that I send you this information so that you can proceed in obtaining authorization and disposal of the contents of these drums. If you have any questions regarding this information, please do not hesitate to contact me at (210) 731-0000. Thank you for your time.

Sincerely,

Matthew Alexander, Ph.D.

Manager of Environmental Technology Development

Enclosure: as stated

cc: Dan Wyatt, ANGRC/CEVR
Maj. Jeffrey Lewis, 220th EIS, Zanesville ANG
Air National Guard file

**Recommended Disposition of Inspection Derived Waste
220th EIS, Zanesville ANGS, Zanesville, Ohio**

Drum Number/ Material	Origin	Recommended Disposition	Rationale
1/Soil	B-001BH B-002BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
2/Soil	B-002BH B-003BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
3/Soil	A-001BH A-002BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels ore PRGs.
4/Soil	A-007BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
5/Soil	A-006BH	Dispose as a hazardous waste.	Soil analysis results show benzo(a)pyrene exceeds State PRGs.
6/Soil	A-004BH	Dispose in solid waste landfill permitted to accept TPH-contaminated soils.	Soil analysis results show TPH exceeds State action levels.
7/Soil	A-002BH A-003BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
8/Soil	A-005BH	Dispose in solid waste landfill permitted to accept TPH-contaminated soils.	Soil analysis results show TPH exceeds State action levels.
9/Water	Decontamination Wastewater	Obtain approval from Muskingum County Sewer Service for disposal through oil/water separator at Zanesville ANGS.	Analytes washed from sampling equipment are significantly diluted by the total volume of decontamination water.

BH – Borehole.

TPH – Total Petroleum Hydrocarbons.

PRG – Preliminary Remediation Goal.



State of Ohio Environmental Protection Agency

Southeast District Office

2195 Front Street
Logan, Ohio 43138-9031
(614) 385-8501
FAX (614) 385-6490

George V. Voinovich
Governor

January 13, 1994

RE: MUSKINGUM COUNTY
ZANESVILLE ANGB
DERR CORRESPONDENCE

Mr. Matthew L. Alexander, Ph.D.
Operational Technologies Corporation
4100 N.W., Loop 410
San Antonio, Texas 78229

Dear Mr. Alexander:

OPEA Guidance for Preparation of Zanesville, Ohio ANGB Work Plan

Enclosed are some pertinent chapters from Ohio EPA's Guidance Document entitled "Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring Programs" that should aid you in the development of the above referenced workplan. Also included is a copy of Ohio Administrative Code 3745-9-10 which applies to abandonment of wells used as a drinking water source. The methods outlined in Chapter 9 of the Guidance Document also apply to the abandonment of former drinking water wells.

Regarding soil and ground water cleanup levels, the State of Ohio does not currently have established constituent specific cleanup goals except for petroleum contaminated soil cleanups. This level is currently established at 105 ppm TPH using EPA method 8015 (modified) or method 418.1, whichever is appropriate. Ohio EPA applies risk based cleanup levels established in accordance with USEPA's "Risk Assessment Guidance for Superfund", Volume 1, Part A, EPA/540/1-89/002, and Part B, EPA/540/R-92/003. Ohio EPA's "How Clean is Clean?" policy (enclosed) should also be followed. Should contamination be detected at the Zanesville site, please contact this office to discuss possible cleanup strategies.

Regarding investigation derived wastes, Ohio EPA is currently developing a policy for managing this waste, but is not yet final. The procedure now in place is the following:

- Investigation derived wastes must be contained in weather resistant containers prior to evaluation (e.g. 55 gallon drums for soils, plastic or metal tanks for liquids).
- Investigation sample results may be used to guide decision making regarding disposition of derived waste.

Mr. Matthew L. Alexander, Ph.D.
January 13, 1994
Page 2

- Investigation derived wastes must be evaluated based on sampling data. RCRA listed wastes or wastes that test hazardous by characteristic must be disposed of accordingly. Soils with detectible levels of constituents but not hazardous are considered solid waste and must be disposed of in a licensed solid waste landfill. Non-hazardous wastewaters are normally disposed of via a POTW facility with the operator's permission.

If you have any questions regarding site investigation and/or cleanup in Ohio, please feel free to call this office at 614-385-8501.

Sincerely,



John Rochotte
Site Coordinator
Division of Emergency and Remedial Response

JR/mr

Enclosures

cc: Saul St. Alverez, Rickenbacker ANGB

INVESTIGATION DERIVED WASTE LOG

Drum	Contents (Water/Soil Cuttings/Borehole/MW/Decon)	% Full
1	Soil B - 001 BH B - 002 BH	95 %
2	Soil B - 003 BH B - 002 BH	100 %
3	Soil A - 001 BH A - 002 BH	95 %
4	Soil A - 007 BH	85 %
5	Soil A - 006 BH	75 %
6	Soil A - 004 BH	70 %
7	Soil A - 002 BH A - 003 BH	95 %
8	Soil A - 005 BH	70 %
9	WATER DECON WATER	65 %
—	NONE	—

Location of Drums: GRAVEL PARKING AREA EAST OF Bldg 5.
Date Stored: 6/3/94
Site Manager: EARL E PARKER

Site Inspection Derived Waste
Drum 1 Containing Cuttings from Boreholes B-001BH and B-002BH
220th EIS, Zanesville ANG, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
Lead	43	NA

mg/kg - milligrams per kilogram.
NA - not available.

Site Inspection Derived Waste
Drum 2 Containing Cuttings from Boreholes B-002BH and B-003BH
220th EIS, Zanesville ANG, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
Lead	7.9	NA

mg/kg - milligrams per kilogram.
NA - not available

Site Inspection Derived Waste
Drum 3 Containing Cuttings from Boreholes A-001BH and A-002BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	71	105*
Metals		
Arsenic	16	0.37*
Beryllium	1.0	0.15*
Cadmium	1.2	140*
Chromium	7	1,400*
Copper	25	NA
Nickel	14	5,400*
Lead	15	NA
Zinc	57	81,000*

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

*Ohio EPA action level.

*Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

Site Inspection Derived Waste
Drum 4 Containing Cuttings from Borehole A-007BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	23	105 [*]
Metals		
Arsenic	9	0.37 [‡]
Beryllium	0.9	0.15 [‡]
Cadmium	0.19	140 [‡]
Chromium	9	1,400 [‡]
Copper	22	NA
Nickel	16	5,400 [‡]
Lead	11	NA
Zinc	52	81,000 [‡]

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

^{*}Ohio EPA action level.

[‡]Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

Site Inspection Derived Waste
Drum 5 Containing Cuttings from Borehole A-006BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
Tetrachloroethene	.007	20,000 ²
SVOCs		
Benzo(a)anthracene	2.2	NA
Benzo(b)fluoranthene	1.7	NA
Benzo(k)fluoranthene	1.8	NA
Benzo(a)pyrene	2.1	0.78 ²
Chrysene	1.8	NA
Fluoranthene	4.0	82,000 ²
Pyrene	2.6	61,000 ²
TPH	20	105 ¹
Metals		
Arsenic	6	0.37 ²
Beryllium	0.7	0.15 ²
Cadmium	0.90	140 ²
Chromium	10	1,400 ²
Copper	22	NA
Nickel	17	5,400 ²
Lead	16	NA
Zinc	57	81,000 ²

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

¹Ohio EPA action level.

²Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

Site Inspection Derived Waste
Drum 6 Containing Cuttings from Borehole A-004BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	1,600	105 [‡]
Metals		
Arsenic	9	0.37 [‡]
Beryllium	0.8	0.15 [‡]
Cadmium	2.6	140 [‡]
Chromium	8	1,400 [‡]
Copper	27	NA
Nickel	10	5,400 [‡]
Lead	16	NA
Zinc	96	81,000 [‡]

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

[‡]Ohio EPA action level.

[‡]Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

Site Inspection Derived Waste
 Drum 7 Containing Cuttings from Boreholes A-002BH and A-003BH
 220th EIS, Zanesville ANG, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	71	105*
Metals		
Arsenic	12	0.37*
Beryllium	1.0	0.15*
Cadmium	0.17	140*
Chromium	16	1,400*
Copper	35	NA
Nickel	14	5,400*
Lead	10	NA
Zinc	57	8,100*

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

*Ohio EPA action level.

*Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

Site Inspection Derived Waste
Drum 8 Containing Cuttings from Borehole A-005BH
220th EIS, Zanesville ANG, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
Tetrachloroethene	.017	20,000 [‡]
SVOCs		
Fluoranthene	2.0	82,000 [‡]
Phenanthrene	0.92	NA
Pyrene	0.72	61,000 [‡]
TPH	370	105[‡]
Metals		
Arsenic	15	0.37 [‡]
Beryllium	1.2	0.15 [‡]
Cadmium	.75	140 [‡]
Chromium	30	1,400 [‡]
Copper	20	NA
Nickel	10	5,400 [‡]
Lead	23	NA
Zinc	91	81,000 [‡]

mg/kg - milligrams per kilogram.

VOCs - Volatile Organic Compounds.

SVOCs - Semivolatile Organic Compounds.

TPH - Total Petroleum Hydrocarbons.

[‡]Ohio EPA action level.

[‡]Ohio EPA provided Preliminary Remediation Goals.

NA - not available.

APPENDIX E

ANALYTICAL REPORTS

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix E
Summary of Volatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Volatile Organics	Location No.:		Sample Date:		Lab Sample No.:		A-01 BH INT.1		A-02 BH INT.2		A-02 BH INT.1		A-02 BH INT.2		A-03 BH INT.1		A-03 BH INT.2		A-04 BH INT.1	
	Matrix	Soil	6/2/94	9406119.11	Soil	6/2/94	9406119.12	Soil	6/2/94	9406119.13	Soil	6/2/94	9406119.14	Soil	6/2/94	9406119.09	Soil	6/2/94	9406119.01	
Acetone		10U			10U			10U			10U			10U			34B	51B	46B	
Benzene		5U			5U			5U			5U			5U			5U	5U	5U	
Bromodichloromethane		5U			5U			5U			5U			5U			5U	5U	5U	
Bromoform		5U			5U			5U			5U			5U			5U	5U	5U	
Bromomethane		10U			10U			10U			10U			10U			10U	10U	10U	
2-Butanone		20U			20U			20U			20U			20U			20U	20U	20U	
Carbon Disulfide		5U			5U			5U			5U			5U			5U	5U	5U	
Carbon Tetrachloride		5U			5U			5U			5U			5U			5U	5U	5U	
Chlorobenzene		5U			5U			5U			5U			5U			5U	5U	5U	
Chloroethane		10U			10U			10U			10U			10U			10U	10U	10U	
2-Chloroethylvinylether		10U			10U			10U			10U			10U			10U	10U	10U	
Chloroform		5U			5U			5U			5U			5U			5U	5U	5U	
Chloromethane		10U			10U			10U			10U			10U			10U	10U	10U	
Dibromochloromethane		5U			5U			5U			5U			5U			5U	5U	5U	
1,1-Dichloroethane		5U			5U			5U			5U			5U			5U	5U	5U	
1,1-Dichloroethene		5U			5U			5U			5U			5U			5U	5U	5U	
1,2-Dichloroethane		5U			5U			5U			5U			5U			5U	5U	5U	
total-1,2-Dichloroethene		5U			5U			5U			5U			5U			5U	5U	5U	
1,2-Dichloropropane		5U			5U			5U			5U			5U			5U	5U	5U	
cis-1,3-Dichloropropene		5U			5U			5U			5U			5U			5U	5U	5U	
trans-1,3-Dichloropropene		5U			5U			5U			5U			5U			5U	5U	5U	
Ethylbenzene		5U			5U			5U			5U			5U			5U	5U	5U	
2-Hexanone		10U			10U			10U			10U			10U			10U	10U	10U	
Methylene Chloride		5U			5U			5U			5U			5U			5U	5U	5U	
4-Methyl-2-Pentanone		10U			10U			10U			10U			10U			10U	10U	10U	
Styrene		5U			5U			5U			5U			5U			5U	5U	5U	
1,1,2,2-Tetrachloroethane		5U			5U			5U			5U			5U			5U	5U	5U	
Tetrachloroethene		5U			5U			5U			5U			5U			5U	5U	5U	
Toluene		5U			5U			5U			5U			5U			5U	5U	5U	
1,1,1-Trichloroethane		5U			5U			5U			5U			5U			5U	5U	5U	
1,1,2-Trichloroethane		5U			5U			5U			5U			5U			5U	5U	5U	
Trichloroethene		5U			5U			5U			5U			5U			5U	5U	5U	
Trichlorofluoromethane		5U			5U			5U			5U			5U			5U	5U	5U	
Vinyl Acetate		10U			10U			10U			10U			10U			10U	10U	10U	
Vinyl Chloride		10U			10U			10U			10U			10U			10U	10U	10U	
Xylenes (total)		5U			5U			5U			5U			5U			5U	5U	5U	

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.
INT - Interval

Appendix E
Summary of Volatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
 (Results in micrograms per kilogram unless otherwise noted.)

Location No.: Sample Date: Lab Sample No.:	A-04 BH INT 2 6/2/94 9406119.02	A-05 BH INT 1 6/2/94 9406119.03	A-05 BH INT 2 6/2/94 9406119.04	A-06 BH INT 1 6/2/94 9406119.05	A-06 BH INT 2 6/2/94 9406119.06	A-07 BH INT 1 6/2/94 9406119.07	A-07 BH INT 2 6/2/94 9406119.08
Volatile Organics Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Acetone	52B	24B	18B	20B	20B	19B	11B
Benzene	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U
2-Butanone	20U	20U	20U	20U	20U	20U	20U
Carbon Disulfide	5U	5U	5U	5U	5U	5U	5U
Carbon Tetrachloride	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U
2-Chloroethylvinylether	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U
Dibromochloromethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
total-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U
Methylene Chloride	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone	10U	10U	10U	10U	10U	10U	10U
Styrene	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	17	5U	7	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U
Vinyl Acetate	10U	10U	10U	10U	10U	10U	10U
Vinyl Chloride	10U	10U	10U	10U	10U	10U	10U
Xylenes (total)	5U	5U	5U	5U	5U	5U	5U

U - Indicates compound analyzed for but not detected.
 BH - Bottle
 B - Indicates analyte found in the associated blank as well as in the sample.
 INT - Interval

Appendix E
Summary of Semivolatile Organic Compound Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANG, Zanesville, Ohio
 (Results in micrograms per kilogram unless otherwise noted.)

Location No.: Sample Date: Lab Sample No.:		A-01 BH INT 1 6/2/94 9406119.11	A-01 BH INT 2 6/2/94 9406119.12	A-02 BH INT 1 6/2/94 9406119.13	A-02 BH INT 2 6/2/94 940619.14	A-03 BH INT 1 6/2/94 9406119.09	A-03 BH INT 2 6/2/94 9406119.10	A-04 BH INT 1 6/2/94 9406119.01
Semivolatile Organics	Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Acenaphthene		330U	330U	330U	330U	330U	330U	330U
Acenaphthylene		330U	330U	330U	330U	330U	330U	330U
Aniline		330U	330U	330U	330U	330U	330U	330U
Anthracene		330U	330U	330U	330U	330U	330U	330U
Benzo(a)Anthracene		330U	330U	330U	330U	330U	330U	330U
Benzo(b)Fluoranthene		330U	330U	330U	330U	330U	330U	330U
Benzo(k)Fluoranthene		330U	330U	330U	330U	330U	330U	330U
Benzo(a)Pyrene		330U	330U	330U	330U	330U	330U	330U
Benzoic Acid		1600U	1600U	1600U	1600U	1600U	1600U	1600U
Benzo(g,h,i)Perylene		330U	330U	330U	330U	330U	330U	330U
Benzyl alcohol		330U	330U	330U	330U	330U	330U	330U
4-Bromophenylphenyl ether		330U	330U	330U	330U	330U	330U	330U
Butylbenzylphthalate		330U	330U	330U	330U	330U	330U	330U
di-n-Butyl phthalate		330U	330U	330U	330U	330U	330U	330U
Carbazole		330U	330U	330U	330U	330U	330U	330U
4-Chloroaniline		330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroethoxy)Methane		330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroethyl)Ether		330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroisopropyl)Ether		330U	330U	330U	330U	330U	330U	330U
4-Chloro-3-Methylphenol		330U	330U	330U	330U	330U	330U	330U
2-Chloronaphthalene		330U	330U	330U	330U	330U	330U	330U
2-Chlorophenol		330U	330U	330U	330U	330U	330U	330U
4-Chlorophenylphenyl ether		330U	330U	330U	330U	330U	330U	330U
Chrysene		330U	330U	330U	330U	330U	330U	330U
Dibenz(a,h)Anthracene		330U	330U	330U	330U	330U	330U	330U
Dibenzofuran		330U	330U	330U	330U	330U	330U	330U
1,2-Dichlorobenzene		330U	330U	330U	330U	330U	330U	330U
1,3-Dichlorobenzene		330U	330U	330U	330U	330U	330U	330U
1,4-Dichlorobenzene		330U	330U	330U	330U	330U	330U	330U
3,3'-Dichlorobenzidine		330U	330U	330U	330U	330U	330U	330U
2,4-Dichlorophenol		330U	330U	330U	330U	330U	330U	330U
Diethylphthalate		330U	330U	330U	330U	330U	330U	330U
2,4-Dimethylphenol		330U	330U	330U	330U	330U	330U	330U
Dimethyl Phthalate		330U	330U	330U	330U	330U	330U	330U
4,6-Dinitro-2-Methylphenol		800U	800U	800U	800U	800U	800U	800U

U - Indicates compound analyzed for but not detected.
 BH - Borehole

INT - Interval

Appendix E
Summary of Semivolatile Organic Compound Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANG, Zanesville, Ohio
 (Results in micrograms per kilogram unless otherwise noted.)

Semivolatile Organics	Matrix	Location No.: A-01 BH INT 1		A-01 BH INT 2		A-02 BH INT 1		A-02 BH INT 2		A-03 BH INT 1		A-03 BH INT 2		A-04 BH INT 1	
		Sample Date: 6/2/94	9406119.11	Sample Date: 6/2/94	9406119.12	Sample Date: 6/2/94	9406119.13	Sample Date: 6/2/94	9406119.14	Sample Date: 6/2/94	9406119.09	Sample Date: 6/2/94	9406119.10	Sample Date: 6/2/94	9406119.01
2,4-Dinitrophenol		880U		800U		800U		800U		800U		800U		800U	
2,4-Dinitrotoluene		330U		330U		330U		330U		330U		330U		330U	
2,6-Dinitrotoluene		330U		330U		330U		330U		330U		330U		330U	
1,2-Diphenylhydrazine		330U		330U		330U		330U		330U		330U		330U	
bis(2-Ethylhexyl)Phthalate		330U		330U		330U		330U		330U		330U		330U	
Fluoranthene		330U		330U		330U		330U		330U		330U		330U	
Fluorene		330U		330U		330U		330U		330U		330U		330U	
Hexachlorobenzene		330U		330U		330U		330U		330U		330U		330U	
Hexachlorobutadiene		330U		330U		330U		330U		330U		330U		330U	
Hexachloroethane		330U		330U		330U		330U		330U		330U		330U	
Hexachlorocyclopentadiene		330U		330U		330U		330U		330U		330U		330U	
Indeno(1,2,3-cd)Pyrene		330U		330U		330U		330U		330U		330U		330U	
Isophorone		330U		330U		330U		330U		330U		330U		330U	
2-Methylnaphthalene		330U		330U		330U		330U		330U		330U		330U	
2-Methylphenol		330U		330U		330U		330U		330U		330U		330U	
4-Methylphenol		330U		330U		330U		330U		330U		330U		330U	
Naphthalene		330U		330U		330U		330U		330U		330U		330U	
2-Nitroaniline		880U		800U		800U		800U		800U		800U		800U	
3-Nitroaniline		880U		800U		800U		800U		800U		800U		800U	
4-Nitroaniline		880U		800U		800U		800U		800U		800U		800U	
Nitrobenzene		330U		330U		330U		330U		330U		330U		330U	
2-Nitrophenol		330U		330U		330U		330U		330U		330U		330U	
4-Nitrophenol		880U		800U		800U		800U		800U		800U		800U	
N-Nitrosodiphenylamine (1)		330U		330U		330U		330U		330U		330U		330U	
N Nitroso Di n Propylamine		330U		330U		330U		330U		330U		330U		330U	
Di-n-Octyl Phthalate		330U		330U		330U		330U		330U		330U		330U	
Pentachlorophenol		880U		800U		800U		800U		800U		800U		800U	
Phenanthrene		330U		330U		330U		330U		330U		330U		330U	
Phenol		330U		330U		330U		330U		330U		330U		330U	
Pyrene		330U		330U		330U		330U		330U		330U		330U	
Pyridine		330U		330U		330U		330U		330U		330U		330U	
1,2,4-Trichlorobenzene		330U		330U		330U		330U		330U		330U		330U	
2,4,5-Trichlorophenol		880U		800U		800U		800U		800U		800U		800U	
2,4,6-Trichlorophenol		330U		330U		330U		330U		330U		330U		330U	

U - Indicates compound analyzed for but not detected.
 BH - Borehole

INT - Interval

Appendix E
Summary of Semivolatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANG, Zanesville, Ohio

(Results in micrograms per kilogram unless otherwise noted.)

Semivolatile Organics	Matrix	Location No.: A-04 BH INT 2		A-05 BH INT 1		A-05 BH INT 2		A-06 BH INT 1		A-06 BH INT 2		A-07 BH INT 1		A-07 BH INT 2	
		Sample Date: 6/2/94	9406119.02	6/2/94	9406119.03	6/2/94	9406119.04	6/2/94	9406119.05	6/2/94	9406119.06	6/2/94	9406119.07	6/2/94	9406119.08
Acenaphthene		330U		660U		330U		1600U		330U		330U		330U	
Acenaphthylene		330U		660U		330U		1600U		330U		330U		330U	
Aniline		330U		660U		330U		1600U		330U		330U		330U	
Anthracene		330U		660U		330U		1600U		330U		330U		330U	
Benzo(a)Anthracene		330U		660U		330U		2200		330U		330U		330U	
Benzo(b)Fluoranthene		330U		660U		330U		1700		330U		330U		330U	
Benzo(k)Fluoranthene		330U		660U		330U		1800		330U		330U		330U	
Benzo(a)Pyrene		330U		660U		330U		2100		330U		330U		330U	
Benzoic Acid		1600U		3200U		1600U		800U		1600U		1600U		1600U	
Benzo(g,h,i)Perylene		330U		660U		330U		1600U		330U		330U		330U	
Benzyl alcohol		330U		660U		330U		1600U		330U		330U		330U	
4-Bromophenylphenyl ether		330U		660U		330U		1600U		330U		330U		330U	
Butylbenzylphthalate		330U		660U		330U		1600U		330U		330U		330U	
di-n-Butyl phthalate		330U		660U		330U		1600U		330U		330U		330U	
Carbazole		330U		660U		330U		1600U		330U		330U		330U	
4-Chloroaniline		330U		660U		330U		1600U		330U		330U		330U	
bis(2-Chloroethoxy)Methane		330U		660U		330U		1600U		330U		330U		330U	
bis(2-Chloroethyl)Ether		330U		660U		330U		1600U		330U		330U		330U	
bis(2-Chloroisopropyl)Ether		330U		660U		330U		1600U		330U		330U		330U	
4-Chloro-3-Methylphenol		330U		660U		330U		1600U		330U		330U		330U	
2-Chloronaphthalene		330U		660U		330U		1600U		330U		330U		330U	
2-Chlorophenol		330U		660U		330U		1600U		330U		330U		330U	
4-Chlorophenylphenyl ether		330U		660U		330U		1600U		330U		330U		330U	
Chrysene		330U		660U		330U		1600U		330U		330U		330U	
Dibenz(a,h)Anthracene		330U		660U		330U		1600U		330U		330U		330U	
Dibenzofuran		330U		660U		330U		1600U		330U		330U		330U	
1,2-Dichlorobenzene		330U		660U		330U		1600U		330U		330U		330U	
1,3-Dichlorobenzene		330U		660U		330U		1600U		330U		330U		330U	
1,4-Dichlorobenzene		330U		660U		330U		1600U		330U		330U		330U	
3,3'-Dichlorobenzidine		330U		660U		330U		1600U		330U		330U		330U	
2,4-Dichlorophenol		330U		660U		330U		1600U		330U		330U		330U	
Diethylphthalate		330U		660U		330U		1600U		330U		330U		330U	
2,4-Dimethylphenol		330U		660U		330U		1600U		330U		330U		330U	
Dimethyl Phthalate		330U		660U		330U		1600U		330U		330U		330U	
4,6-Dinitro-2-Methylphenol		800U		1600U		800U		4000U		800U		800U		800U	

U - Indicates compound analyzed for but not detected.
BH - Borehole

INT - Interval

Appendix E
Summary of Semivolatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANG, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-04 BH INT 2	A-05 BH INT 1	A-05 BH INT 2	A-06 BH INT 1	A-06 BH INT 2	A-07 BH INT 1	A-07 BH INT 2
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Semivolatile Organics	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
2,4-Dinitrophenol	800U	1600U	800U	4000U	800U	800U	800U
2,4-Dinitrotoluene	330U	660U	330U	1600U	330U	330U	330U
2,6-Dinitrotoluene	330U	660U	330U	1600U	330U	330U	330U
1,2-Diphenylhydrazine	330U	660U	330U	1600U	330U	330U	330U
bis(2-Ethylhexyl)Phthalate	330U	660U	330U	1600U	330U	330U	330U
Fluoranthene	330U	2000	330U	4000	330U	330U	330U
Fluorene	330U	660U	330U	1600U	330U	330U	330U
Hexachlorobenzene	330U	660U	330U	1600U	330U	330U	330U
Hexachlorobutadiene	330U	660U	330U	1600U	330U	330U	330U
Hexachloroethane	330U	660U	330U	1600U	330U	330U	330U
Hexachlorocyclopentadiene	330U	660U	330U	1600U	330U	330U	330U
Indeno(1,2,3-cd)Pyrene	330U	660U	330U	1600U	330U	330U	330U
Isophorone	330U	660U	330U	1600U	330U	330U	330U
2-Methylnaphthalene	330U	660U	330U	1600U	330U	330U	330U
2-Methylphenol	330U	660U	330U	1600U	330U	330U	330U
4-Methylphenol	330U	660U	330U	1600U	330U	330U	330U
Naphthalene	330U	660U	330U	1600U	330U	330U	330U
2-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
3-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
4-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
Nitrobenzene	330U	660U	330U	1600U	330U	330U	330U
4-Nitrophenol	800U	1600U	800U	4000U	800U	800U	800U
N-Nitrosodiphenylamine (1)	330U	660U	330U	1600U	330U	330U	330U
N-Nitroso Di-n-Propylamine	330U	660U	330U	1600U	330U	330U	330U
Di-n-Octyl Phthalate	330U	660U	330U	1600U	330U	330U	330U
Pentachlorophenol	800U	1600U	800U	4000U	800U	800U	800U
Phenanthrene	330U	920	330U	1600U	330U	330U	330U
Phenol	330U	660U	330U	1600U	330U	330U	330U
Pyrene	330U	720	330U	2600	330U	330U	330U
Pyridine	330U	660U	330U	1600U	330U	330U	330U
1,2,4-Trichlorobenzene	330U	660U	330U	1600U	330U	330U	330U
2,4,5-Trichlorophenol	800U	1600U	800U	4000U	800U	800U	800U
2,4,6-Trichlorophenol	330U	660U	330U	1600U	330U	330U	330U

U - Indicates compound analyzed for but not detected.
BH - Borehole

INT - Interval

Appendix E

Summary of Metal/TPH Analytes Detected in Soil Samples

220th EIS, Zanesville ANG, Zanesville, Ohio

(Results in milligrams per kilogram unless otherwise noted.)

Location No.:	A-01 BH INT 1	A-01 BH INT 2	A-02 BH INT 1	A-02 BH INT 2	A-03 BH INT 1	A-03 BH INT 2	A-04 BH INT 1
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.11	9406119.12	9406119.13	9406119.14	9406119.09	9406119.10	9406119.01
Metals	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Silver, Total	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U
Arsenic, Total	16	2	2	0.2	4	12	9
Beryllium, Total	0.6	0.6	0.8	1	0.8	1	0.6
Cadmium, Total	1.2	0.03	0.17	0.04	0.04	0.04	2.6
Chromium, Total	7	7	5	1	9	16	5
Copper, Total	24	12	25	22	28	35	27
Mercury, Total	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
Nickel, Total	14	4	10	13	12	14	10
Lead, Total	15	5.7	10	10	9	10	16
Antimony, Total	3U	3U	3U	5.7	3U	3U	3U
Selenium, Total	0.2U	0.2U	0.2U	0.2	0.2U	0.2U	0.4
Thallium, Total	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U
Zinc, Total	57	24	50	43	55	57	96

Lab Sample ID No.:	9406119.11	9406119.12	9406119.13	9406119.14	9406119.09	9406119.10	9406119.01
Total Petroleum	17	4.4	71	4U	4U	4U	1600
Hydrocarbons-Diesel							

U - Indicates compound analyzed for but not detected.

BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.

INT - Interval

Appendix E
Summary of Metal/TPH Analytes Detected in Soil Samples
220th EIS, Zanesville ANG, Zanesville, Ohio
(Results in milligrams per kilogram unless otherwise noted.)

Location No.:		A-04 BH INT 2		A-05 BH INT 1		A-05 BH INT 2		A-06 BH INT 1		A-06 BH INT 2		A-07 BH INT 1		A-07 BH INT 2	
Sample Date:		6/2/94		6/2/94		6/2/94		6/2/94		6/2/94		6/2/94		6/2/94	
Lab Sample No.:		9406119.02		9406119.03		9406119.04		9406119.05		9406119.06		9406119.07		9406119.08	
Metals	Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Silver, Total		0.6U		0.6U		0.6U		0.6U		0.6U		0.6U		0.6U	
Arsenic, Total		6	15	5U		6		2		8		9			
Beryllium, Total		0.8	0.6	1.2		0.7		0.1U		0.7		0.9			
Cadmium, Total		0.03	0.75	0.02		0.9		0.01		0.19		0.08			
Chromium, Total		8	30	10		10		2.3		8		9			
Copper, Total		15	20	13		22		6		17		22			
Mercury, Total		0.02U	0.02U	0.02U		0.02U		0.02U		0.02U		0.02U			
Nickel, Total		10	8	10		17		1U		13		16			
Lead, Total		10	23	9.4		16		4.9		8.4		11			
Antimony, Total		3U	4.4	3.3		3U		3U		3U		3U			
Selenium, Total		0.2U	0.6	0.2U		0.2U		0.2U		0.2U		0.2U			
Thallium, Total		0.4U	0.4U	0.4U		0.4U		0.4U		0.4U		0.4U			
Zinc, Total		33	91	30		57		20		49		52			

Lab Sample ID No.:		9406119.02		9406119.03		9406119.04		9406119.05		9406119.06		9406119.07		9406119.08	
Total Petroleum		4U		370		4U		20		4U		23		4U	
Hydrocarbons-Diesel															

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample
INT - Interval

Summary of Metal Analytes Detected in Soil Samples at AOC-A

220th EIS, Zanesville ANG, Zanesville, Ohio

(Results in milligrams per kilogram unless otherwise noted.)

Location No.:		B-001 BH INT 1		B-001 BH INT 2		B-002 BH INT 1		B-002 BH INT 2		B-003 BH INT 1		B-003 BH INT 2	
Sample Date:		6/3/94		6/3/94		6/3/94		6/3/94		6/3/94		6/3/94	
Lab Sample No.:		9406170.05		9406170.06		9406170.03		9406170.04		9406170.01		9406170.02	
Metals	Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Lead, Total		43	42			5.3	6.2			7.9			4.9

U - Indicates Compound Analyzed For But Not Detected.

BH - Borehole

INT - Interval



SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 94.06.119

Approved for release by:

S. Sample
S. Sample, Laboratory Director

Date: 6/22/94

Karen Satterfield
Karen Satterfield, Project Manager

Date: 6/27/94



CASE NARRATIVE

WORK ORDER No.: 9406119

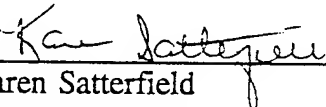
Southern Petroleum Laboratories (SPL) is pleased to present the results for laboratory analyses to Operational Technologies. The fourteen (14) soil samples were received at our laboratory on June 03, 1994 at a temperature of 3 degrees Celsius. The following is a brief narrative of the laboratory analysis.

The samples were analyzed for volatiles, semi-volatiles, metals, and TPH (diesel). All results are reported on an as received basis. There were no deviations from the methods.

Soil sample "A-05 BH Int.1" was analyzed for semi-volatile organics by SW-846 method 8270. Due to matrix interferences, the internal standard areas for Chrysene-d12 and Perylene-d12 were above the maximum QC control limits. Upon reanalysis of the extract at a higher dilution, the internal standard area of Perylene-d12 failed again. Therefore, the internal standard failed due to matrix interferences. Soil sample "A-04 BH Int.1" was analyzed for semi-volatiles at a 5x dilution due to hydrocarbon interferences. Soil sample "A-06 BH Int.1" was analyzed for semi-volatiles at a 5x dilution due to hydrocarbon interferences.

All of the quality control data was within limits for this project except for acetone detected in the method blank. This is indicated by the letter "B" on the result pages. Acetone is a common laboratory contaminant.

If I can be of further assistance or answer any questions, please do not hesitate to contact me at (713) 660-0901 ext. 114.



Karen Satterfield
Project Manager



Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-11

Operational Tech

SAMPLE ID: A-01 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/14/94 12:36:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Data File: /chem/k.i/k061494.b/k165s01.d
Report Date: 15-Jun-1994 11:12

Page 1

SPL Labs

Data file : /chem/k.i/k061494.b/k165s01.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 14-JUN-1994 12:36

Autotune Date: {

Operator :

Inst ID: k.i

Smp Info : 9406119-8240S-11A X1

Misc Info :

Comment :

Method : /chem/k.i/k061494.b/kclps.m

Meth Date : 14-Jun-1994 17:20 hillery

Cal Date : 14-JUN-1994 10:26

Cal File: k165cc1.d

Als bottle: 7

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	ON-COLUMN	FINAL
					(ng)	(ug/Kg)
=====	----	==	=====	-----	-----	
* 1 Bromochloromethane	129.00	2.520	(1.000)	58786	50	(Q)
\$ 16 1,2-Dichloroethane-d4	65.00	2.923	(1.120)	182756	47	47
* 18 1,4-Difluorobenzene	114.00	3.323	(1.000)	424886	50	
* 33 Chlorobenzene-d5	117.00	7.429	(1.000)	346956	50	
\$ 38 Toluene-d8	98.00	5.232	(0.704)	462998	51	51
\$ 42 Bromofluorobenzene	95.00	9.505	(1.279)	198483	50	50

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	47	94.47	70-121
\$ 38 Toluene-d8	50	51	101.82	84-138
\$ 42 Bromofluorobenzene	50	50	99.96	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165s01.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	65375	32687	130750	68786	5.22
18 1,4-Difluorobenzene	393488	196744	786976	424886	7.98
33 Chlorobenzene-d5	337452	168726	674904	346956	2.82

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	-0.01
33 Chlorobenzene-d5	7.41	6.91	7.91	7.43	0.20

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

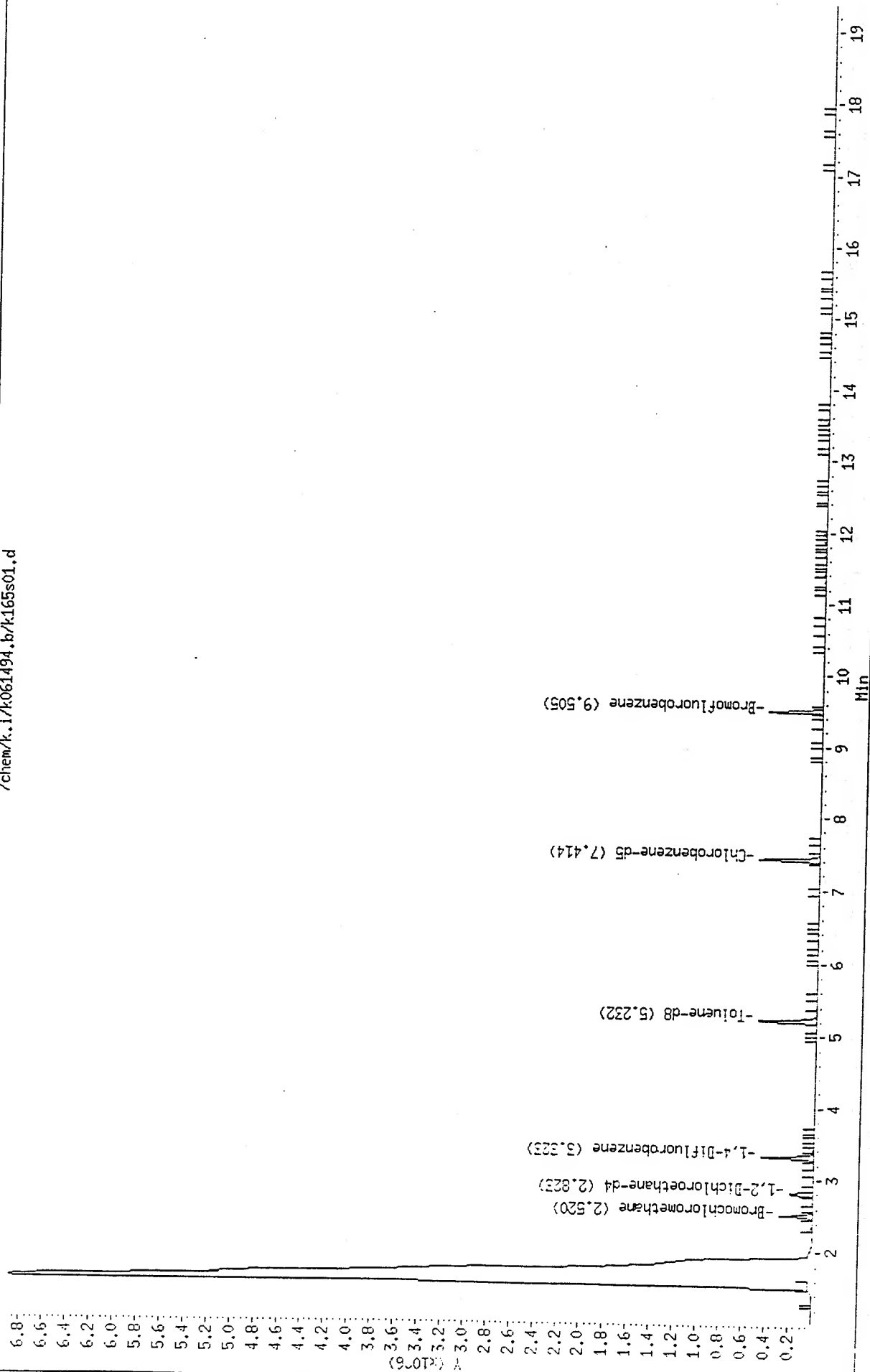
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s01.d
Date : 14-JUN-1994 12:36
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Page 4

Column diameter : 0.25

/chem/k.i/k061494.b/k165s01.d





Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-12

Operational Tech

SAMPLE ID: A-01 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/14/94 13:50:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s02.d
Lab. Id. : Quant Type: ISTD
Inj Date : 14-JUN-1994 13:50 Autotune Date: {
Operator : Inst ID: k.i
Smp Info : 9406119-8240S-12A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Math Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26 Cal File: k165cc1.d
Als bottle: 10
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/Kg)
-----	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.522	(1.000)	69809	50	(Q)
S 16 1,2-Dichloroethane-d4	65.00	2.910	(1.114)	184537	47	47
* 18 1,4-Difluorobenzene	114.00	3.325	(1.000)	422473	50	
* 33 Chlorobenzene-d5	117.00	7.416	(1.000)	354875	50	
S 38 Toluene-d8	98.00	5.219	(0.704)	465773	50	50
S 42 Bromofluorobenzene	95.00	9.492	(1.280)	201565	50	50

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	47	93.99	70-121
\$ 38 Toluene-d8	50	50	100.15	84-138
\$ 42 Bromofluorobenzene	50	50	99.25	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165s02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	65375	32687	130750	69809	6.78
18 1,4-Difluorobenzene	393488	196744	786976	422478	7.37
33 Chlorobenzene-d5	337452	168726	674904	354876	5.16

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.06
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.04
33 Chlorobenzene-d5	7.41	6.91	7.91	7.42	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s02.d

Date : 14-JUN-1994 13:50

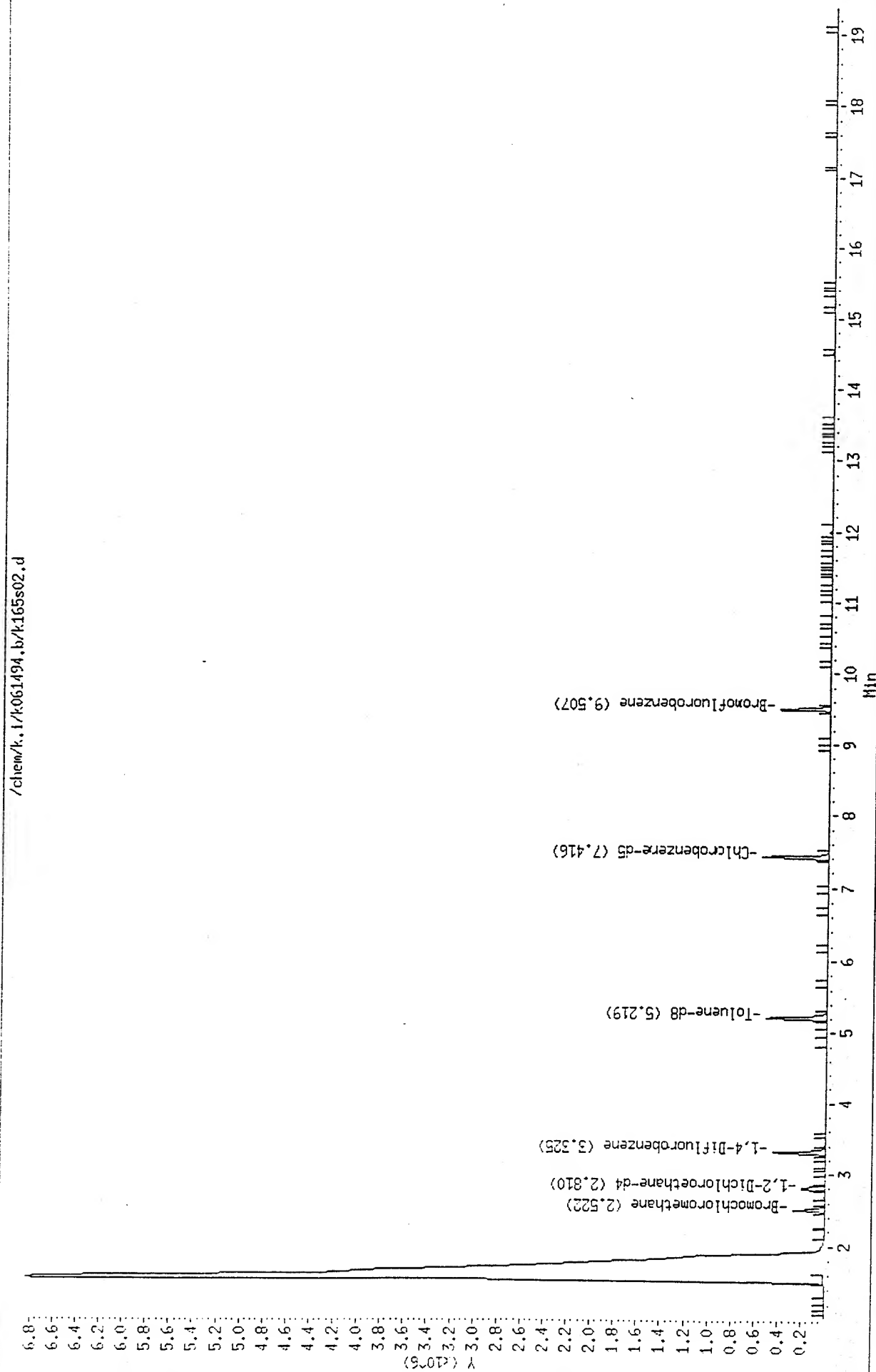
Instrument : k.i

Sample ID :

Column phase :

Volume Injected (uL) : 0.0

Column diameter : 0.25





Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)

SPL Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: k.i
 Lab File ID: k165s04.d
 Lab Sample ID:
 Analysis Type: VOA
 Quant Type: ISTD
 Method File: /chem/k.i/k061494.b/kclps.m
 Misc Info:

Calibration Date: 06/14/94
 Calibration Time: 1026
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	65375	32687	130750	74257	13.59
18 1,4-Difluorobenzene	393488	196744	786976	447808	13.80
33 Chlorobenzene-d5	337452	168726	674904	370777	9.88

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.03
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.02
33 Chlorobenzene-d5	7.41	6.91	7.91	7.43	0.21

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s04.d

Date : 14-JUL-1994 14:39

Instrument : k.i

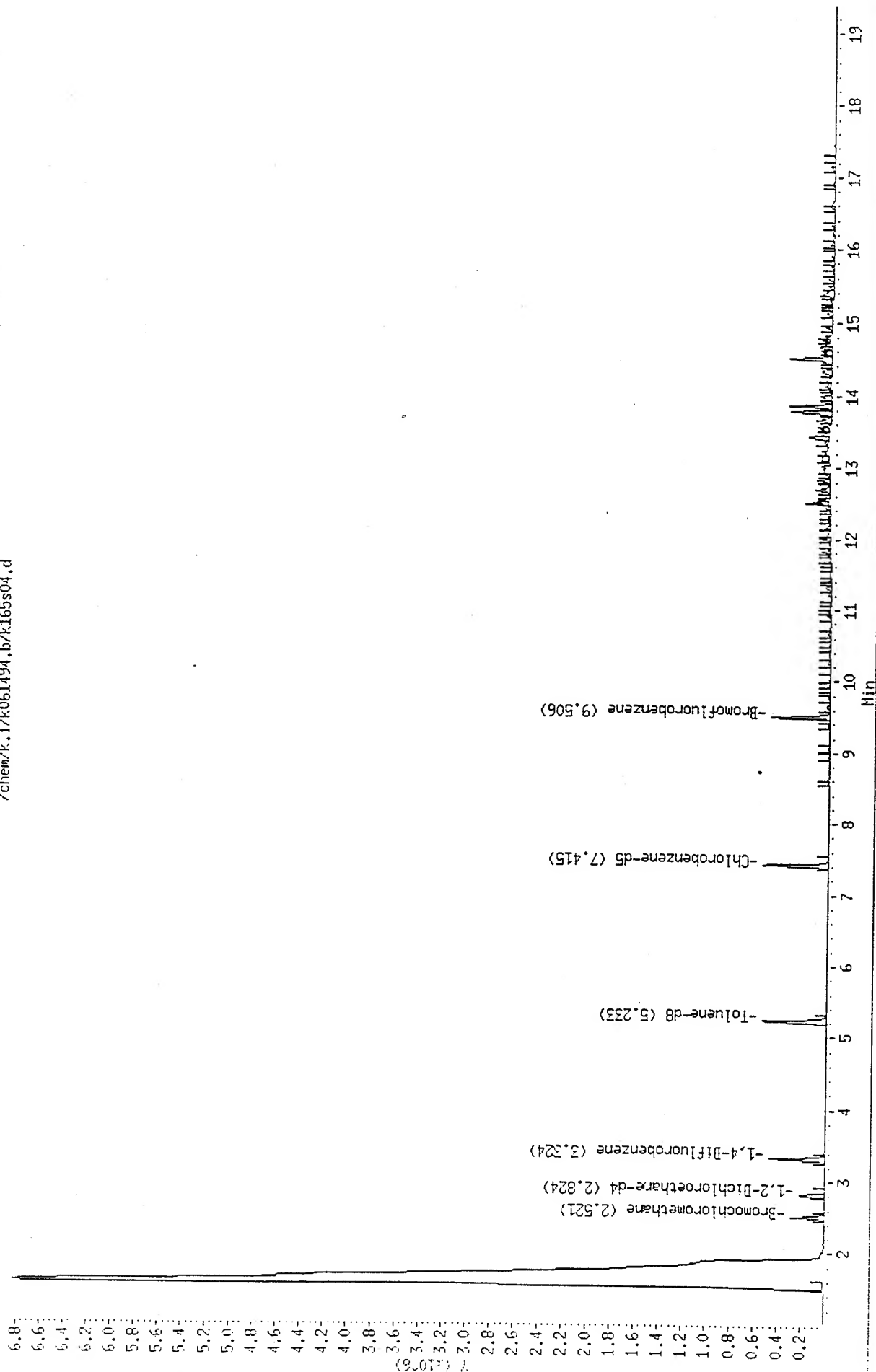
Sample ID :

Column phase :

Volume Injected (ul) : 0.0

Column diameter : 0.25

/chem/k.i/k061494.b/k165s04.d



Date : 14-JUN-1994 14:39

Instrument : k.i

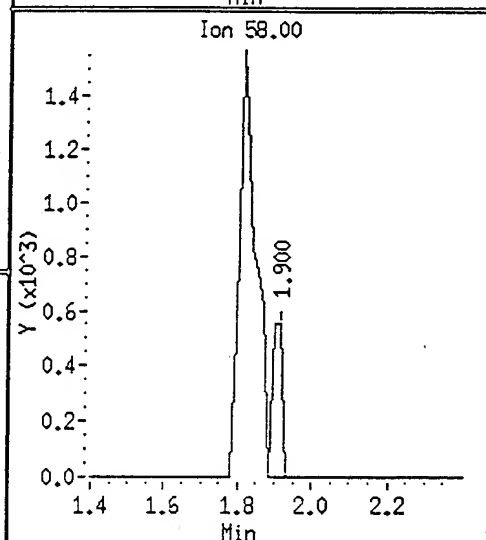
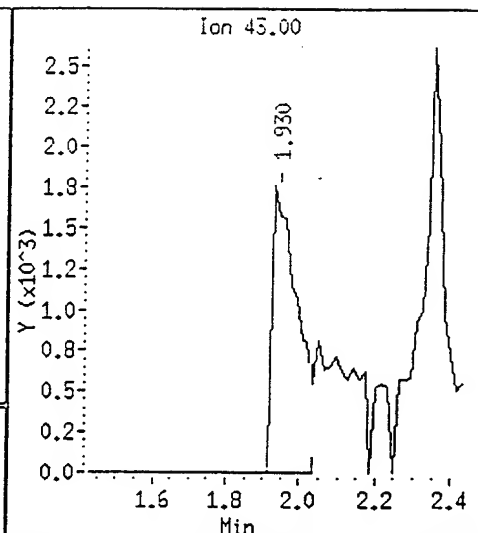
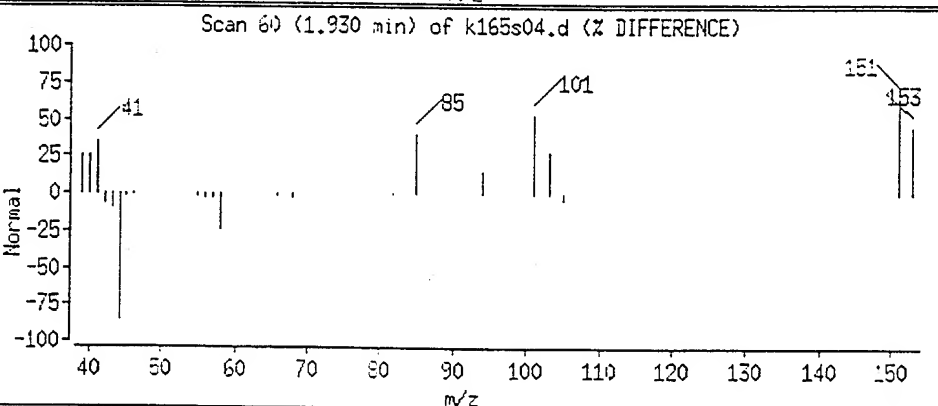
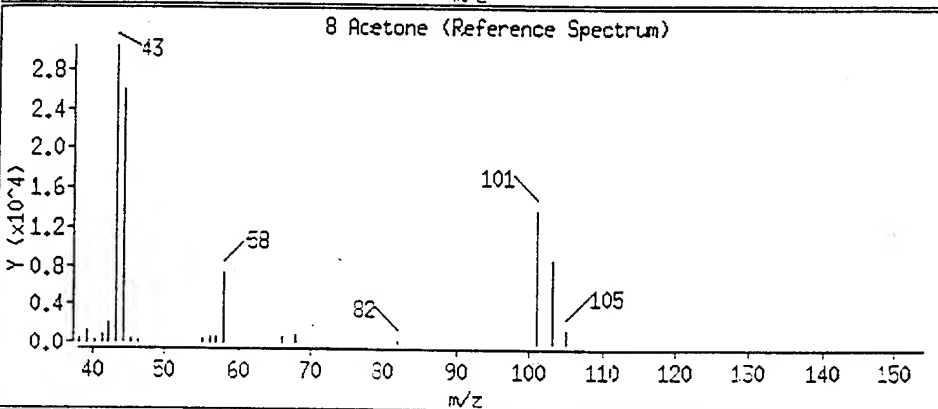
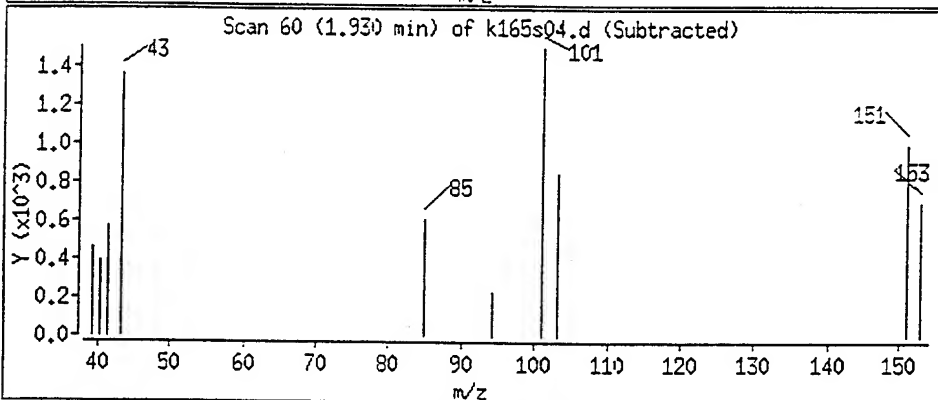
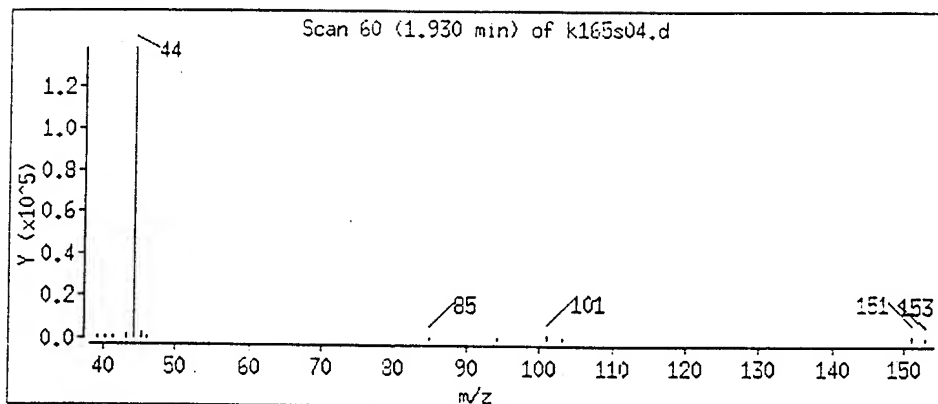
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone



Data File: /chem/k.i/k060894.b/k159bf2.d

Page 1

Date : 08-JUN-94 12:49

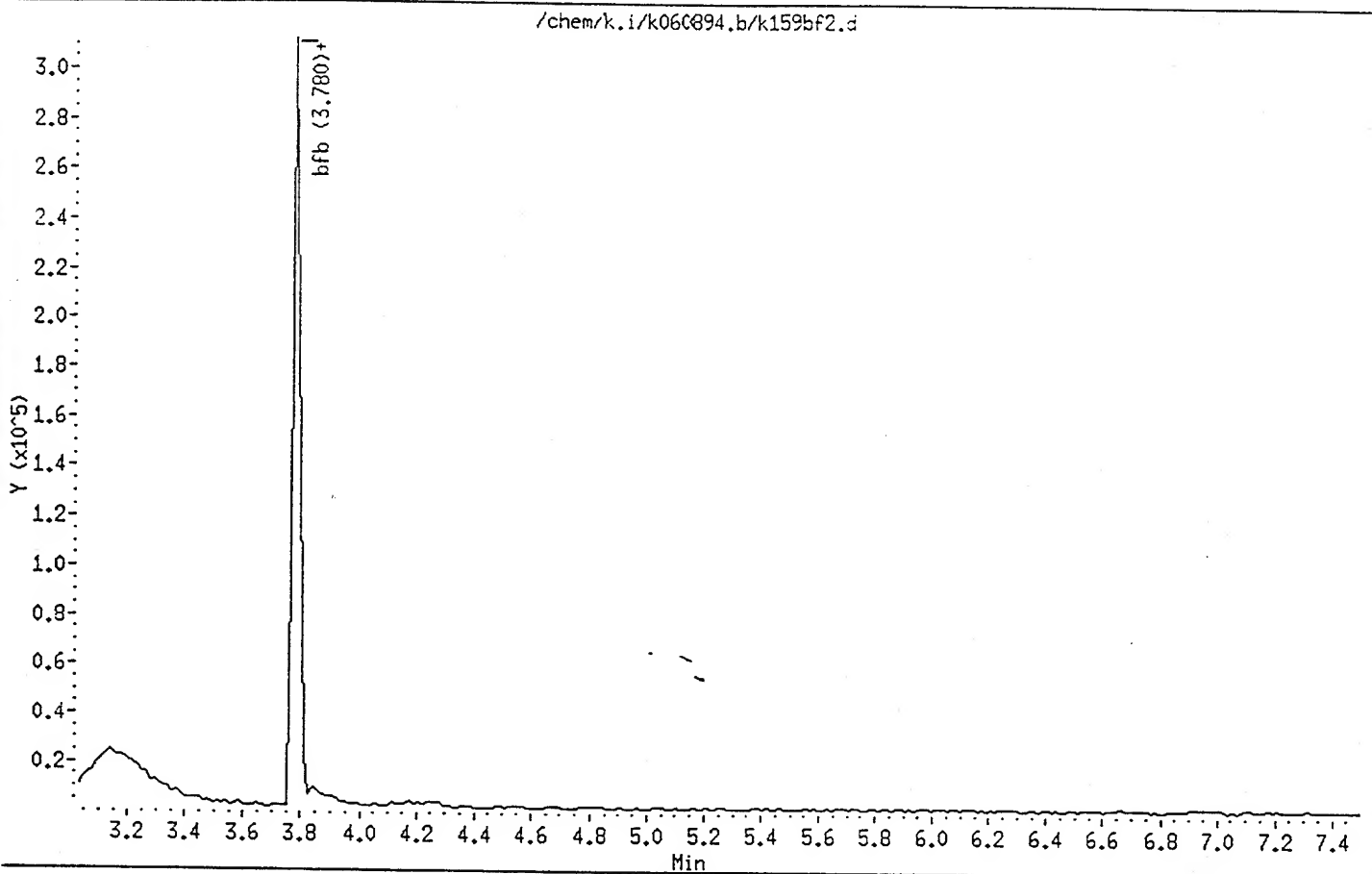
Instrument : k.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0





Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 34	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-09

Operational Tech

SAMPLE ID: A-03 BH Int.1

PARAMETER	ANALYTICAL DATA (continued) RESULTS	PQL*	UNITS
ANALYZED BY: HLW	DATE/TIME: 06/08/94 00:22:00		
METHOD: 8240, Volatile Organics - Soil			
NOTES: * - Practical Quantitation Limit	ND - Not Detected		
NA - Not Analyzed			
B = Compound present in Method Blank	D - Surr. diluted out.		
COMMENTS:			

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s10.d
Lab. Id. : Quant Type: ISTD
Inj Date : 09-JUN-1994 00:22 Autotune Date: {
Operator : Inst ID: k.i
Smp Info : 9406119-8240S-09A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01 Cal File: k159cc3.d
Als bottle: 27
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/Kg)
-----	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.520	(1.000)	43400	50	(Q)
8 Acetone	43.00	1.808	(0.717)	24672	34	34 <i>How</i>
\$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	112036	46	46
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	379078	50	
* 33 Chlorobenzene-d5	117.00	7.445	(1.000)	269421	50	
\$ 38 Toluene-d8	98.00	5.248	(0.705)	402745	56	56
\$ 42 Bromofluorobenzene	95.00	9.521	(1.279)	140043	46	46

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	46	93.16	70-121
\$ 38 Toluene-d8	50	56	112.16	84-138
\$ 42 Bromofluorobenzene	50	46	92.71	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: k.i
 Lab File ID: k159s10.d
 Lab Sample ID:
 Analysis Type: VOA
 Quant Type: ISTD
 Method File: /chem/k.i/k060894.b/kclps.m
 Misc Info:

Calibration Date: 06/08/94
 Calibration Time: 1501
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	43400	-30.44
18 1,4-Difluorobenzene	436788	218394	873576	379078	-13.21
33 Chlorobenzene-d5	349737	174868	699474	269421	-22.96

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

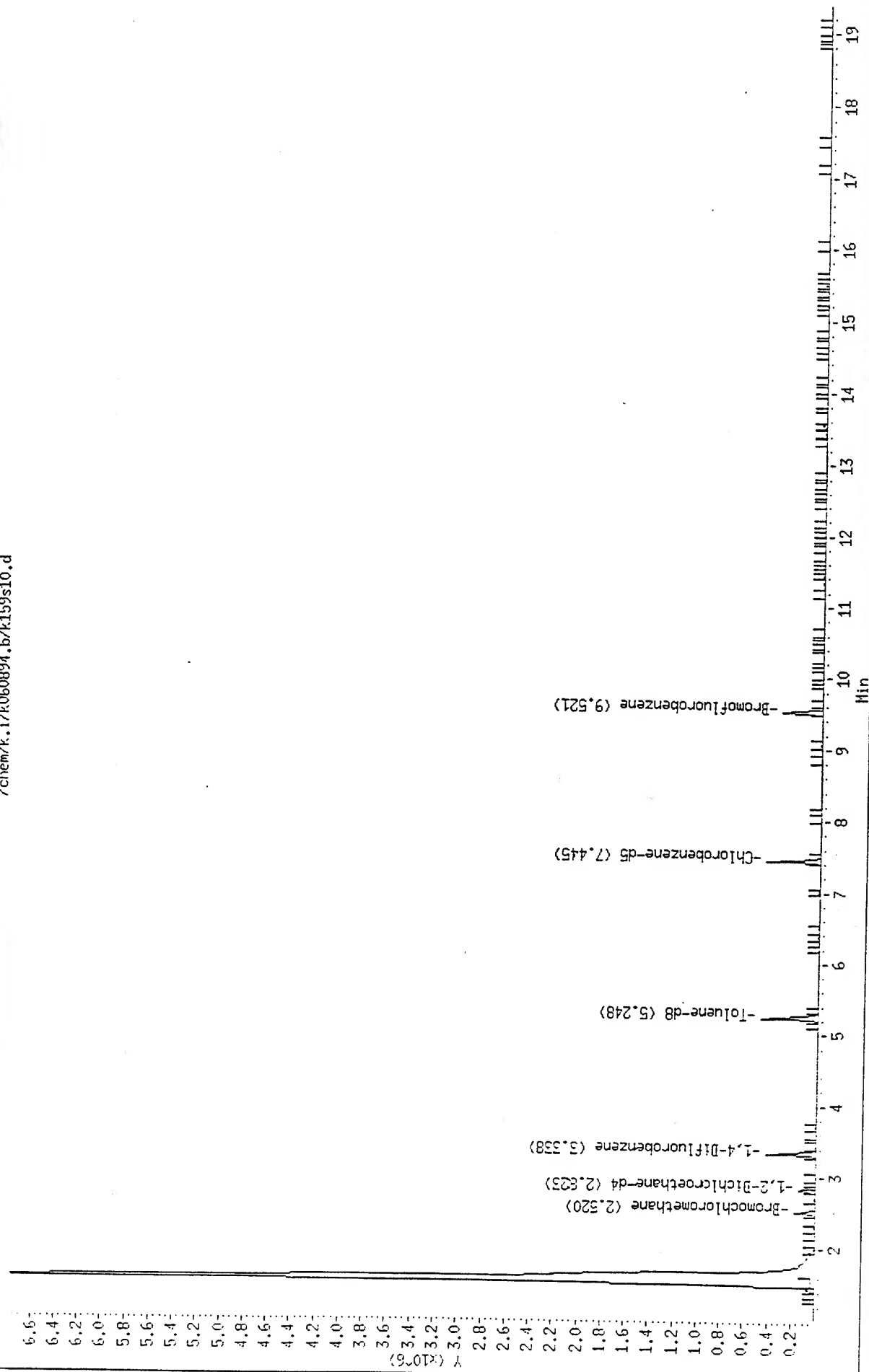
AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s10.d
Date : 09-JUN-1994 00:22
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Page 4

Column diameter : 0.25

/chem/k.i/k060894.b/k159s10.d



Date : 09-JUN-1994 00:22

Instrument : K1

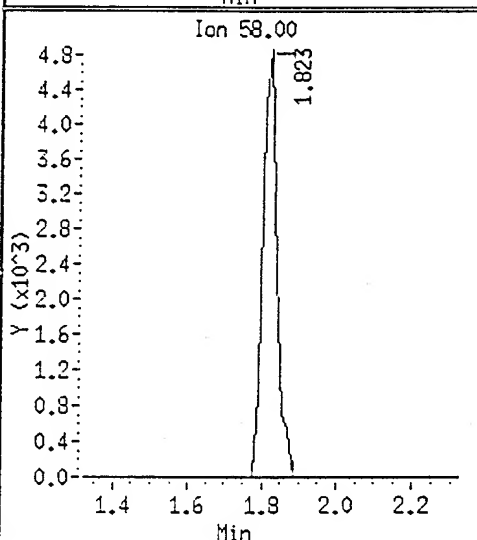
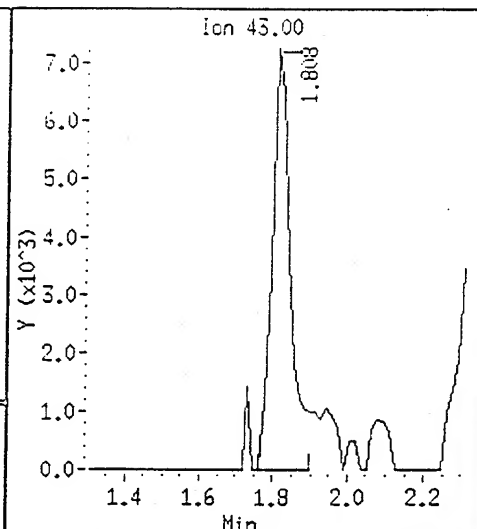
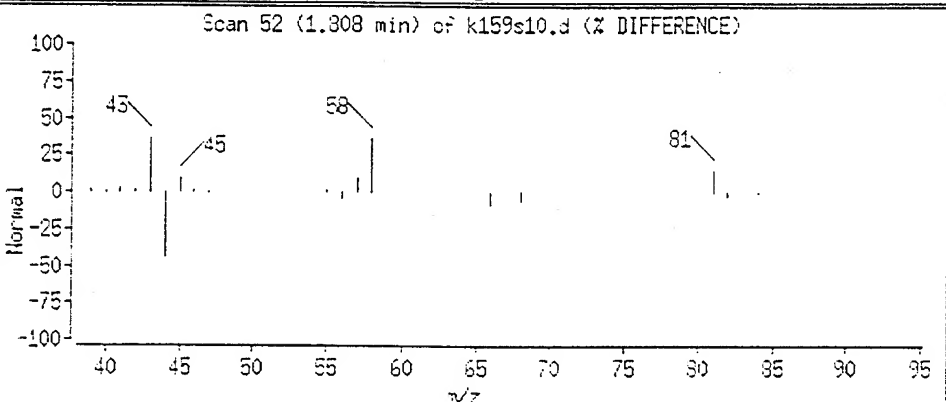
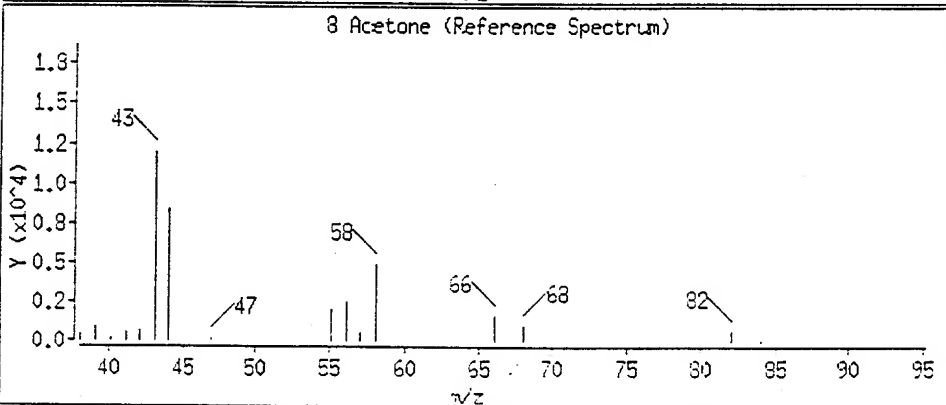
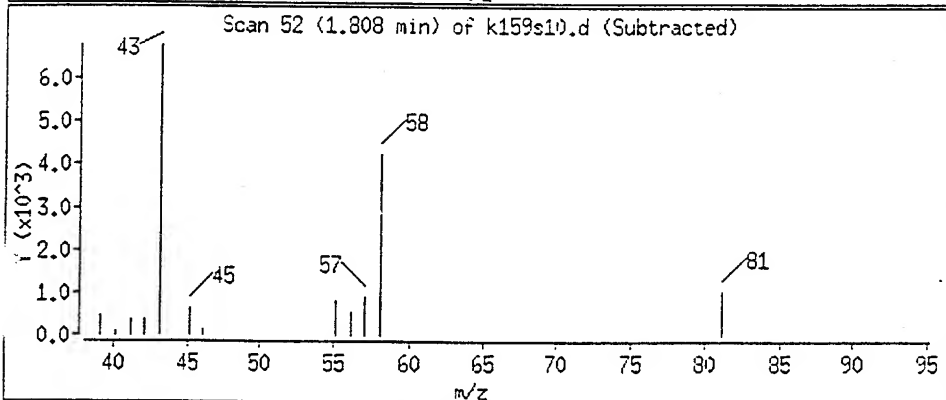
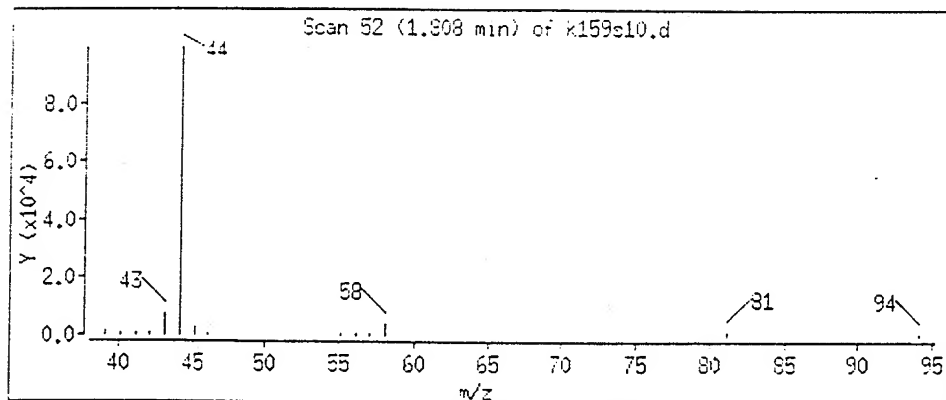
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone





Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 51	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-10

Operational Tech

SAMPLE ID: A-03 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
ANALYZED BY: HLW			
DATE/TIME: 06/08/94 00:46:00			
METHOD: 8240, Volatile Organics - Soil			
NOTES:	* - Practical Quantitation Limit	ND - Not Detected	
	NA - Not Analyzed		
	B = Compound present in Method Blank	D - Surr. diluted out.	
COMMENTS:			

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s11.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 09-JUN-1994 00:46

Autotune Date: {

Operator :

Inst ID: k.i

Smp Info : 9406119-8240S-10A X1

Misc Info :

Comment :

Method : /chem/k.i/k060894.b/kclps.m

Meth Date : 09-Jun-1994 11:53 hillery

Cal Date : 08-JUN-1994 16:01

Cal File: k159cc3.d

Als bottle: 28

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.522	(1.000)	37103	50	(C)
8 Acetone	43.00	1.810	(0.716)	31055	51	51(Q) <i>How</i>
\$ 16 1,2-Dichloroethane-d4	65.00	2.825	(1.120)	95807	46	46
* 18 1,4-Difluorobenzene	114.00	3.341	(1.000)	368791	50	
* 33 Chlorobenzene-d5	117.00	7.447	(1.000)	258790	50	
\$ 38 Toluene-d8	98.00	5.250	(0.705)	395223	57	57
\$ 42 Bromofluorobenzene	95.00	9.523	(1.279)	132605	46	46

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kc1ps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	46	93.19	70-121
\$ 38 Toluene-d8	50	57	114.59	84-138
\$ 42 Bromofluorobenzene	50	46	91.40	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s11.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	37103	-40.53
18 1,4-Difluorobenzene	436788	218394	873576	368791	-15.57
33 Chlorobenzene-d5	349737	174868	699474	258790	-26.00

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.07
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	0.05
33 Chlorobenzene-d5	7.45	6.95	7.95	7.45	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s11.d

Date : 09-11-1994 00:46

Instrument : F.I

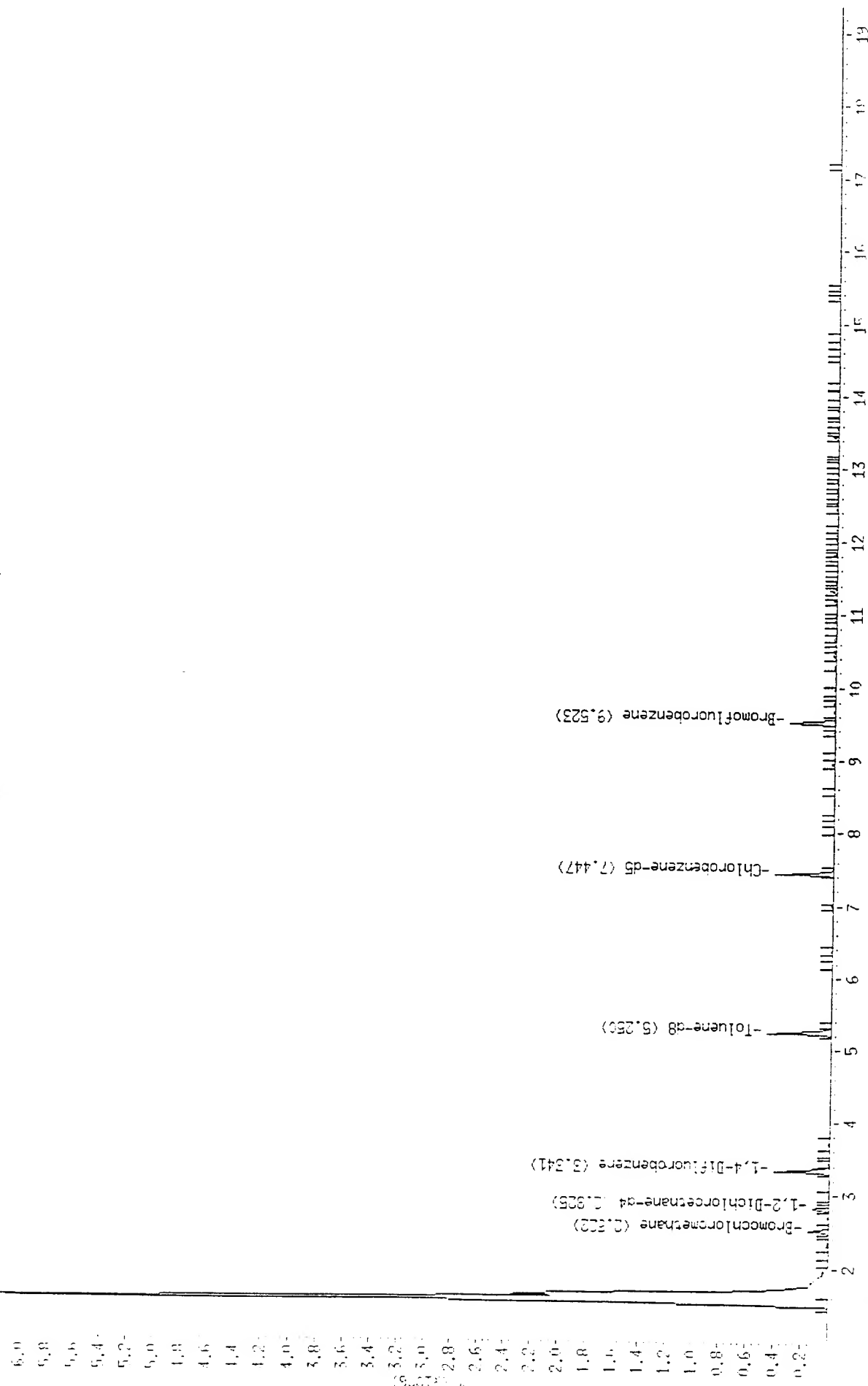
Sample ID :

Column Phase :

Volume Injected (ul) : 0.0

Column diameter : 0.25

/chem/k.i/k060894.b/k159s11.d



Data File: chem/k11/k060894.b/k159s11.d

Date : 09-JUN-1994 00:46

Instrument : 4.1

Sample ID :

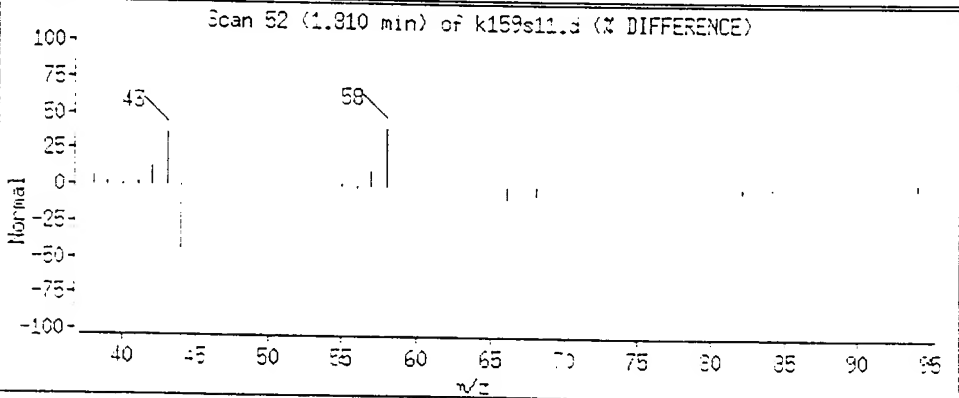
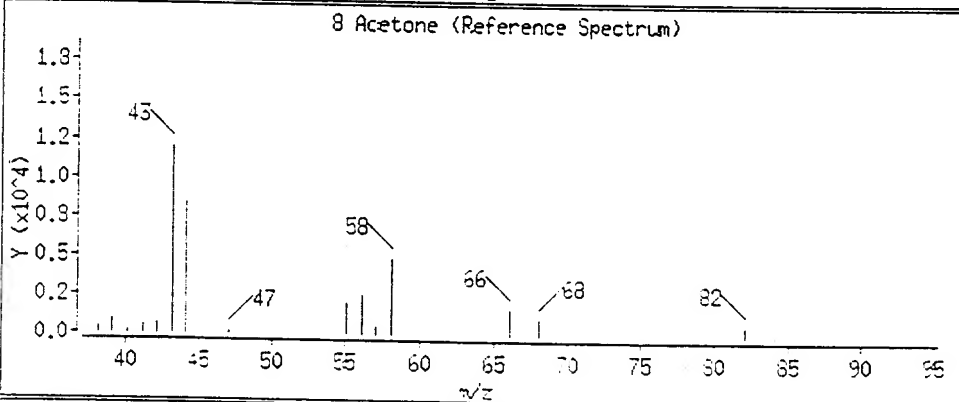
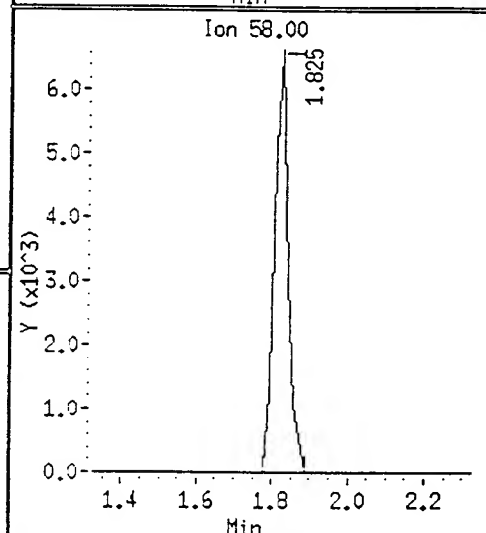
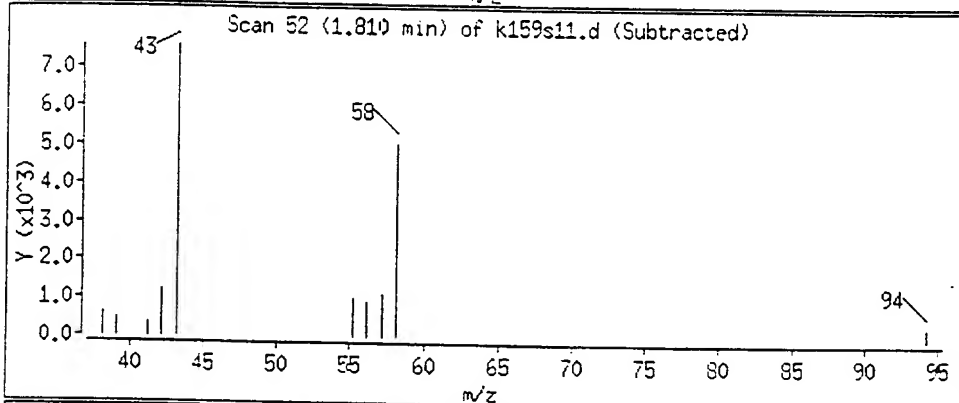
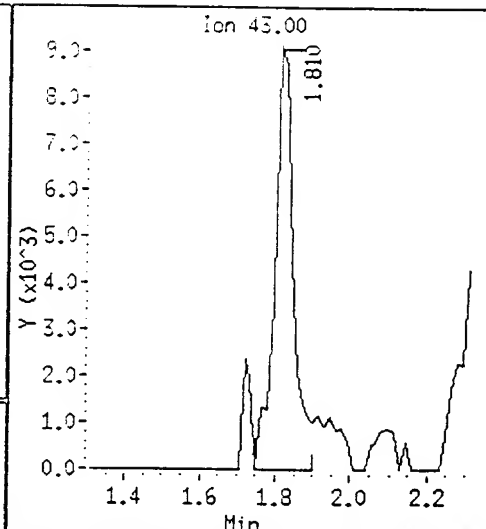
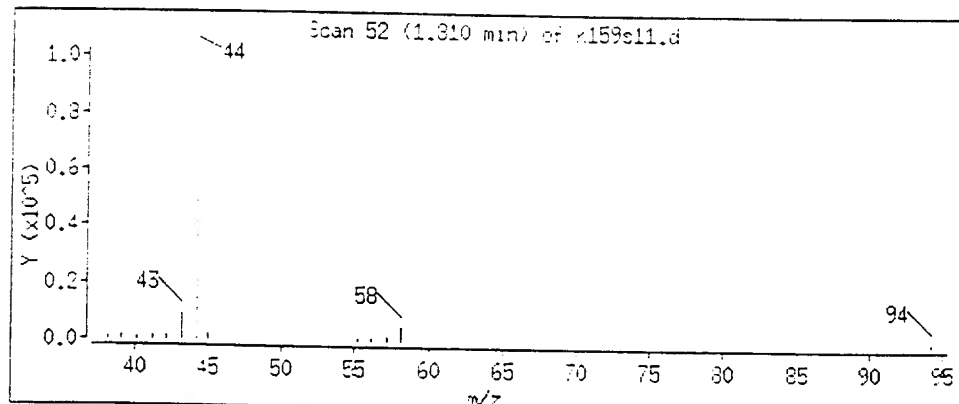
Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

Page 5

8 Acetone





Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 46	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-01

Operational Tech

SAMPLE ID: A-04 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
ANALYZED BY: HLW			
DATE/TIME: 06/08/94 21:09:00			
METHOD: 8240, Volatile Organics - Soil			
NOTES:	* - Practical Quantitation Limit	ND - Not Detected	
	NA - Not Analyzed		
	B = Compound present in Method Blank	D - Surr. diluted out.	
COMMENTS:			

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s02.d
Lab. Id. : Quant Type: ISTD
Inj Date : 08-JUN-1994 21:09 Autotune Date: {
Operator : Inst ID: k.i
Smp Info : 9406119-8240S-01A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 27-Jun-1994 10:19 csadmin
Cal Date : 08-JUN-1994 16:01 Cal File: k159cc3.d
Als bottle: 19
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/Kg)
-----	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.535	(1.000)	58614	50	(Q)
8 Acetone	43.00	1.808	(0.713)	44829	46	46
\$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.120)	156847	48	48
* 18 1,4-Difluorobenzene	114.00	3.353	(1.000)	391894	50	
19 2-Butanone	43.00	2.353	(0.702)	25040	18	18
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	318239	50	
\$ 38 Toluene-d8	98.00	5.262	(0.707)	433155	51	51
\$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	180806	51	51

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	48	96.57	70-121
\$ 38 Toluene-d8	50	51	102.12	84-138
\$ 42 Bromofluorobenzene	50	51	101.34	59-113

* - Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

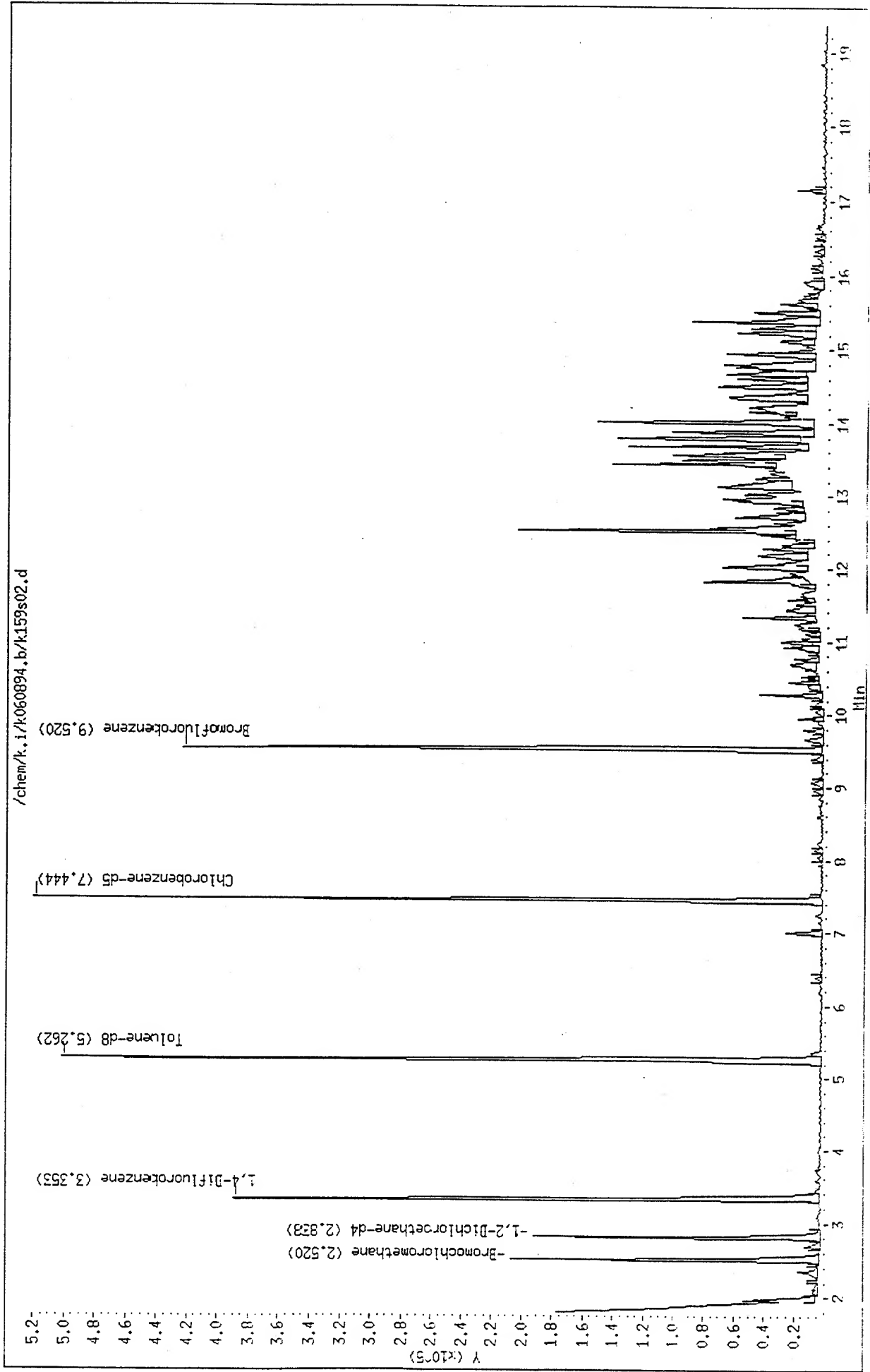
COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	58614	-6.05
18 1,4-Difluorobenzene	436788	218394	873576	391894	-10.28
33 Chlorobenzene-d5	349737	174868	699474	318239	-9.01

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.54	0.57
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.35	0.43
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s02.d
Date : 08-JUN-1994 21:09
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (ul) : 0.0

Column diameter : 0.25



Date : 08-JUN-1994 21:09

Instrument : k.i

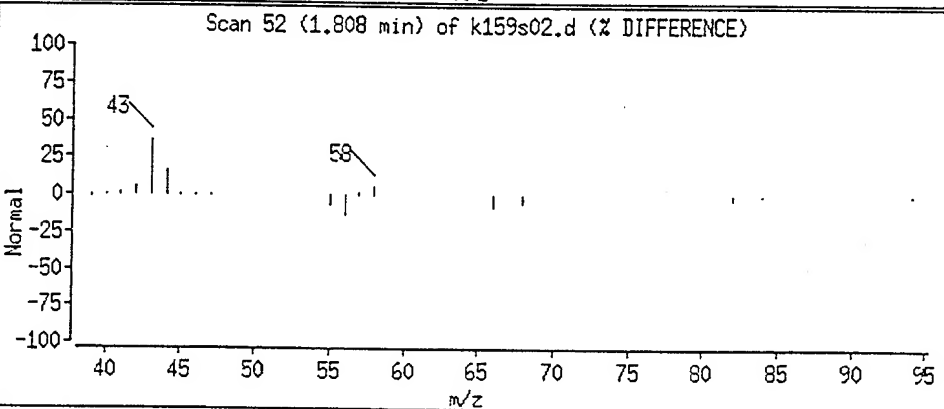
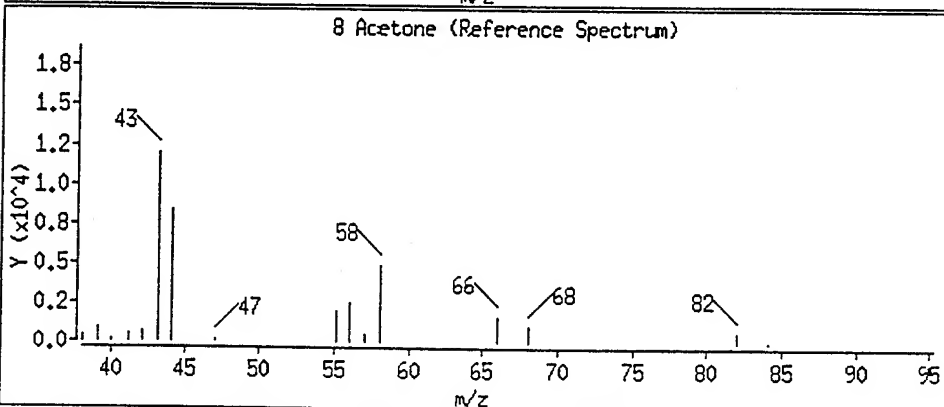
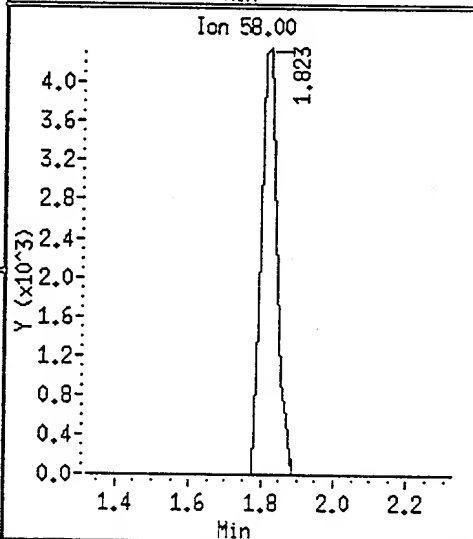
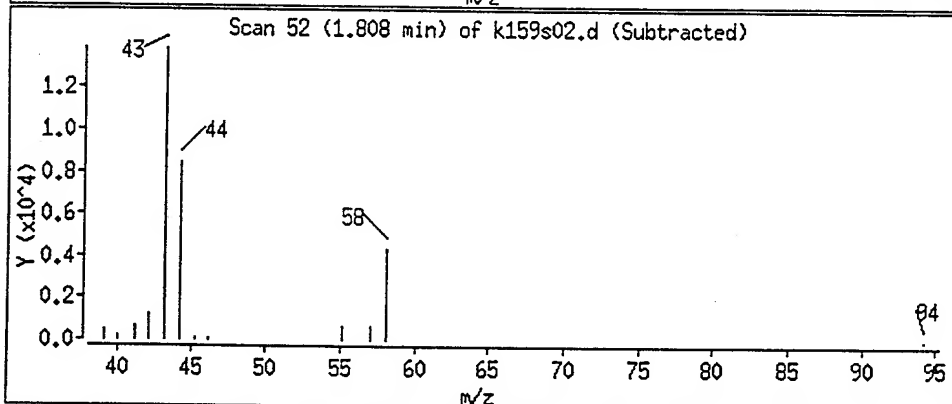
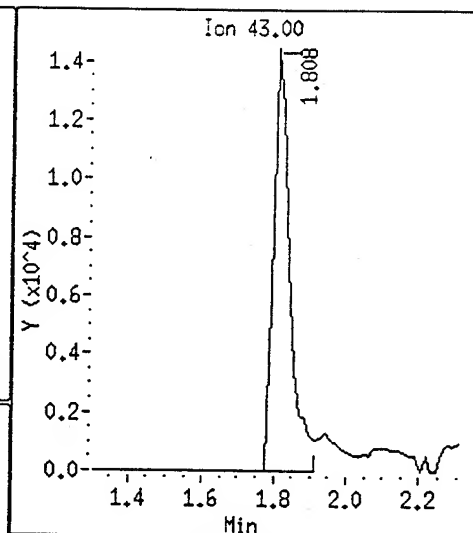
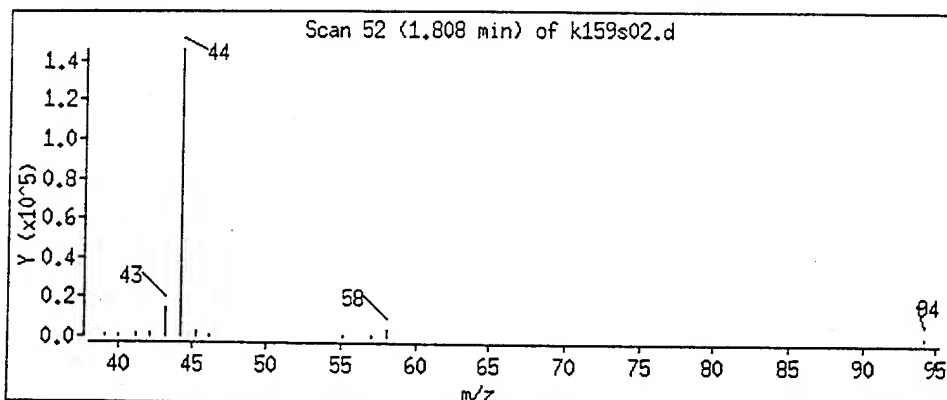
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone



Date : 08-JUN-1994 21:09

Instrument : k.i

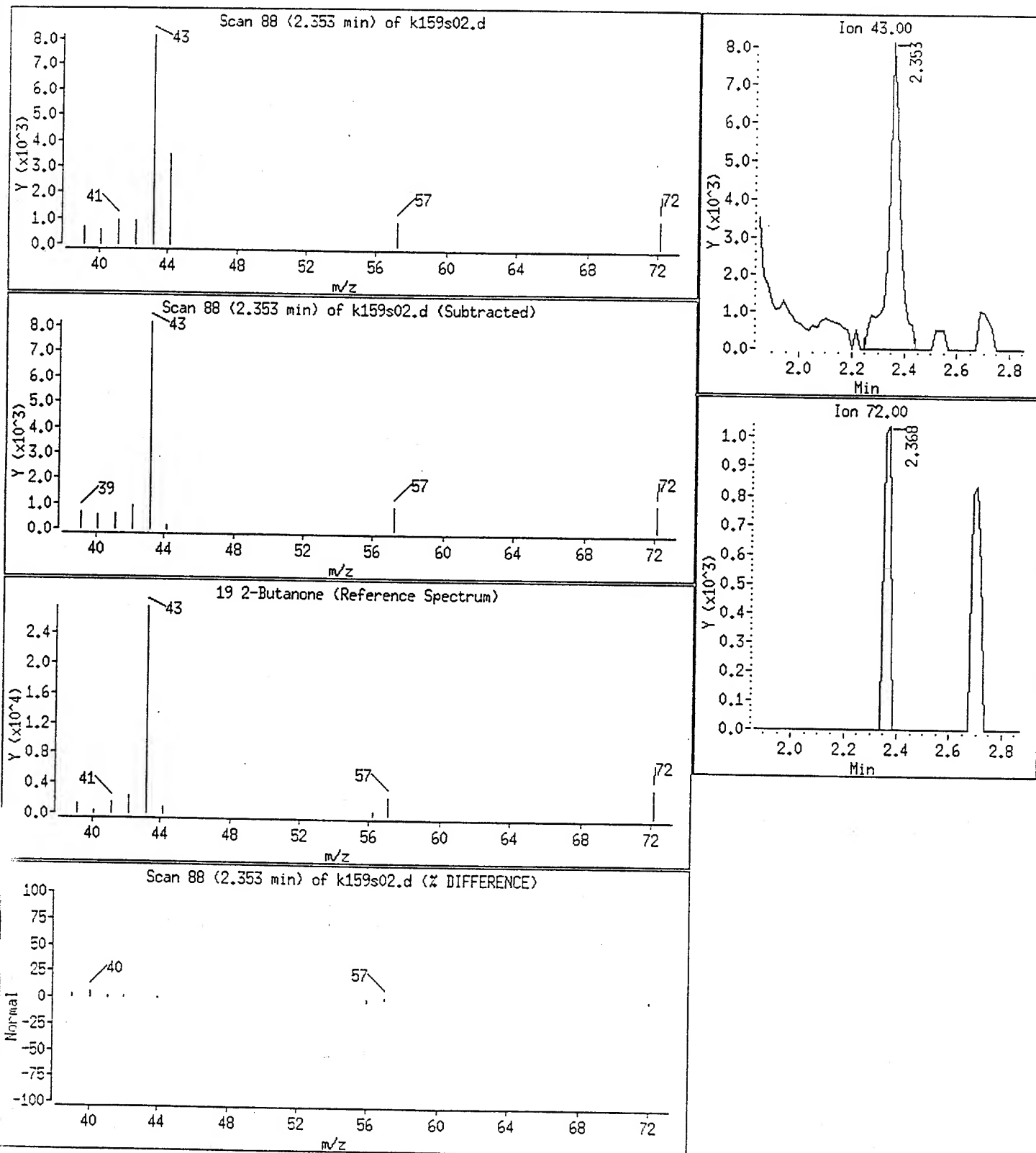
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

19 2-Butanone





Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 52	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-02

Operational Tech

SAMPLE ID: A-04 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/08/94 21:33:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed			
	B = Compound present in Method Blank	D - Surr. diluted out.		
COMMENTS:				

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-13

Operational Tech

SAMPLE ID: A-02 BH Int.1

PARAMETER	ANALYTICAL DATA (continued) RESULTS	PQL*	UNITS
ANALYZED BY: HLW	DATE/TIME: 06/14/94 14:14:00		
METHOD: 8240, Volatile Organics - Soil			
NOTES: * - Practical Quantitation Limit	ND - Not Detected		
NA - Not Analyzed	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s03.d
Lab. Id. : Quant Type: ISTD
Inj Date : 14-JUN-1994 14:14 Autotune Date: {
Operator : Inst ID: k.i
Sup Info : 9406119-8240S-13A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26 Cal File: k165cc1.d
Als bottle: 11
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
*****	****	==	*****	*****	*****	*****
* 1 Bromochloromethane	128.00	2.520	(1.000)	68200	50	(Q)
\$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	180353	47	47
* 18 1,4-Difluorobenzene	114.00	3.323	(1.000)	421710	50	
* 33 Chlorobenzene-d5	117.00	7.430	(1.000)	339401	50	
\$ 38 Toluene-d8	98.00	5.233	(0.704)	458411	52	52
\$ 42 Bromofluorobenzene	95.00	9.506	(1.279)	216454	56	56

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/k.i/k061494.b/k165s03.d
Report Date: 15-Jun-1994 11:12

Page 2

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	47	94.03	70-121
\$ 38 Toluene-d8	50	52	103.06	84-138
\$ 42 Bromofluorobenzene	50	56	111.44	59-113

* - Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)

Data File: /chem/k.i/k061494.b/k165s03.d

Date : 14-JUN-1994 14:14

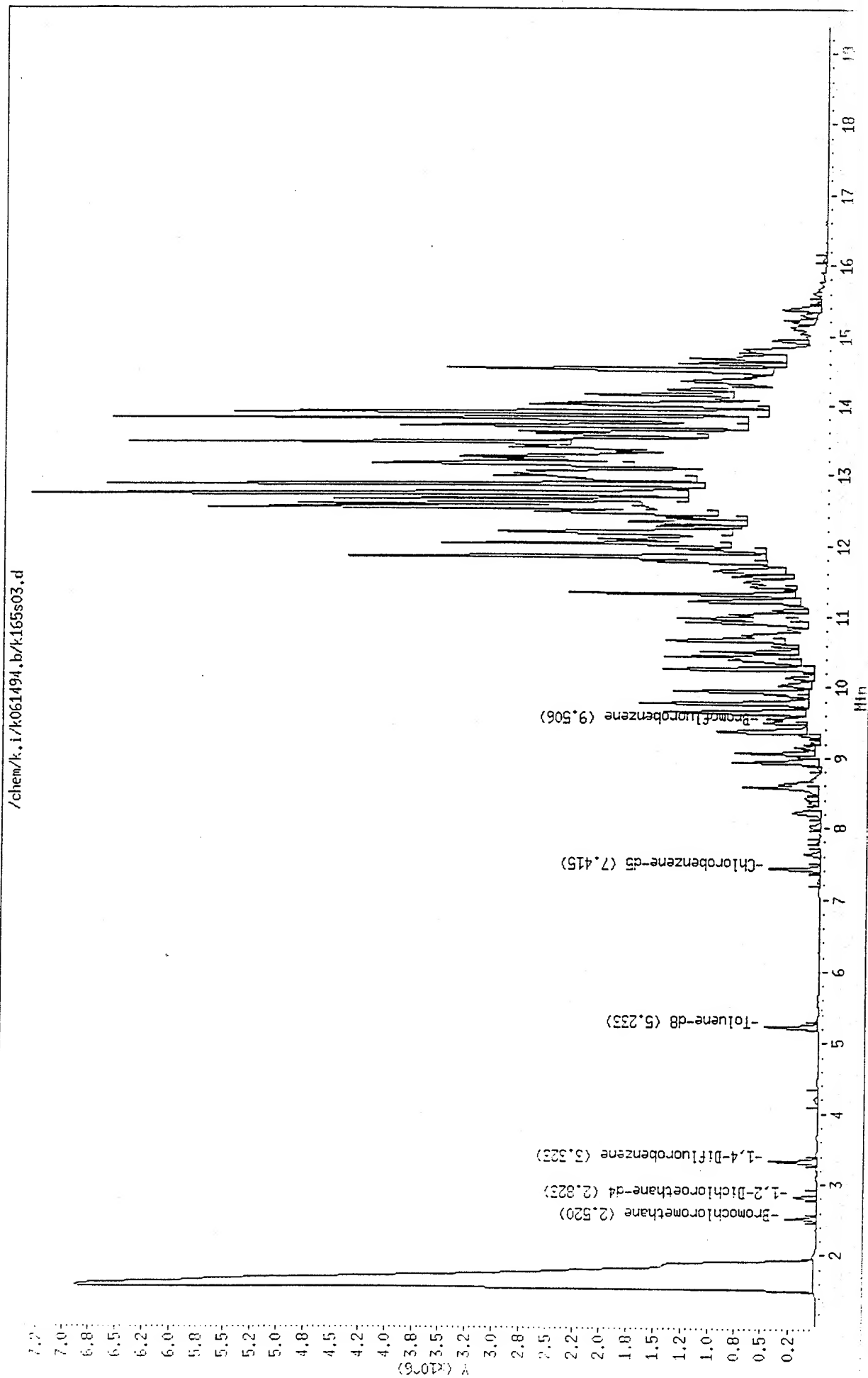
Instrument : k.i

Sample ID :

Column phase :

Volume Injected (uL) : 0.0

Column diameter : 0.25





Certificate of Analysis No. 9406119-14

Operational Tech

SAMPLE ID: A-02 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	

ANALYZED BY: HLW

DATE/TIME: 06/14/94 12:36:00

METHOD: 8240, Volatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s04.d
Lab. Id. : Quant Type: ISTD
Inj Date : 14-JUN-1994 14:39 Autotune Date: {
Operator : Inst ID: k.i
Smp Info : 9406119-8240S-14A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26 Cal File: k165cc1.d
Als bottle: 12
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.521	(1.000)	74257	50	(Q)
8 Acetone	43.00	1.930	(0.766)	8417	12	12 (Q)
\$ 16 1,2-Dichloroethane-d4	65.00	2.824	(1.120)	190480	46	46
* 18 1,4-Difluorobenzene	114.00	3.324	(1.000)	447808	50	
* 33 Chlorobenzene-d5	117.00	7.430	(1.000)	370777	50	
\$ 38 Toluene-d8	98.00	5.233	(0.704)	487904	50	50
\$ 42 Bromofluorobenzene	95.00	9.506	(1.279)	212911	50	50

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LCW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
S 16 1,2-Dichloroethane	50	46	91.21	70-121
S 38 Toluene-d8	50	50	100.40	84-138
S 42 Bromofluorobenzene	50	50	100.34	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

Data file : /chem/k.i/k060894.b/k159s03.d

Lab. Id. :

Inj Date : 08-JUN-1994 21:33

Operator :

Smp Info : 9406119-8240S-02A X1

Misc Info :

Comment :

Method : /chem/k.i/k060894.b/kclps.m

Meth Date : 09-Jun-1994 11:53 hillery

Cal Date : 08-JUN-1994 16:01

Als bottle: 20

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----		--	-----	-----	-----
* 1 Bromochloromethane	128.00	2.520 (1.000)	51630	50	(Q)	
8 Acetone	43.00	1.823 (0.723)	44593	52	48	52
\$ 16 1,2-Dichloroethane-d4	65.00	2.838 (1.126)	137583	48	48	
* 18 1,4-Difluorobenzene	114.00	3.338 (1.000)	389942	50		
* 33 Chlorobenzene-d5	117.00	7.445 (1.000)	299969	50		
\$ 38 Toluene-d8	98.00	5.263 (0.707)	421919	53	53	
\$ 42 Bromofluorobenzene	95.00	9.520 (1.279)	165890	49	49	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	48	96.17	70-121
\$ 38 Toluene-d8	50	53	105.53	84-138
\$ 42 Bromofluorobenzene	50	49	98.64	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: k.i
 Lab File ID: k159s03.d
 Lab Sample ID:
 Analysis Type: VOA
 Quant Type: ISTD
 Method File: /chem/k.i/k060894.b/kclps.m
 Misc Info:

Calibration Date: 06/08/94
 Calibration Time: 1601
 Sample Type: SOIL
 Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	62390	31195	124780	51630	-17.25
18 1,4-Difluorobenzene	436788	218394	873576	389942	-10.73
33 Chlorobenzene-d5	349737	174868	699474	299969	-14.23

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s03.d

Date : 08-JUN-1994 21:33

Instrument : k.i

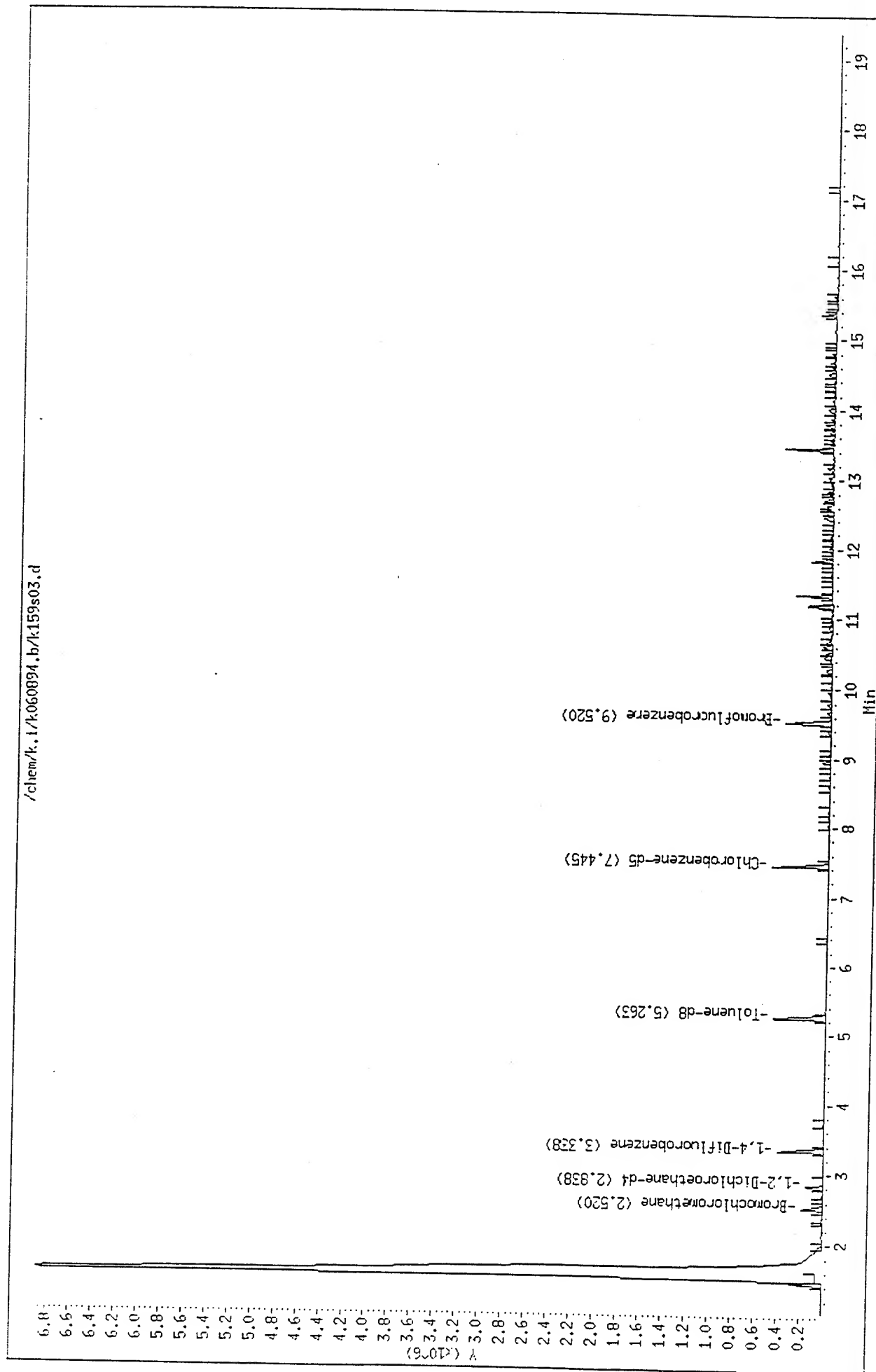
Sample ID :

Column phase :

Volume Injected (uL) : 0.0

Page 4

Column diameter : 0.25



Date : 08-JUN-1994 21:33

Instrument : k.1

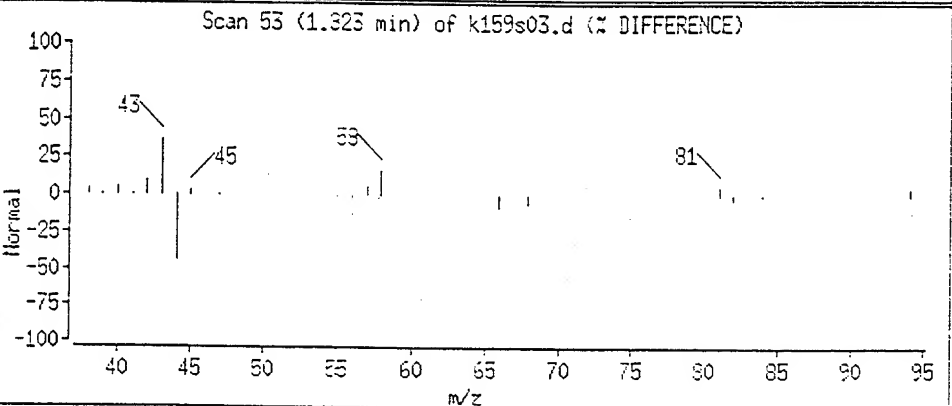
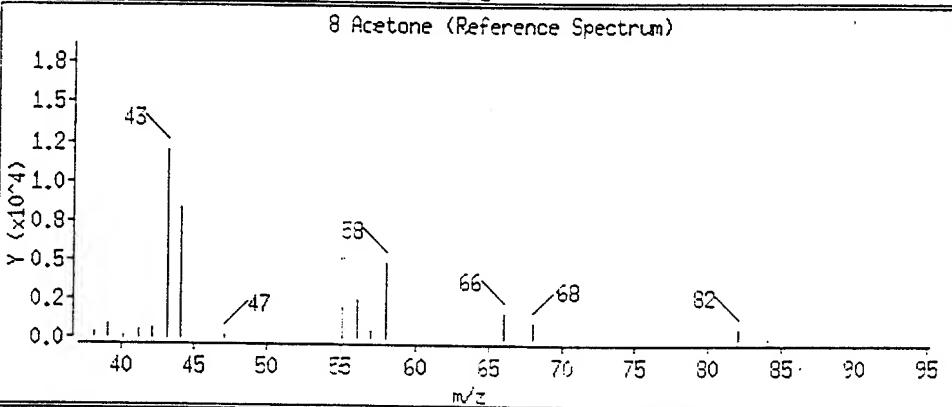
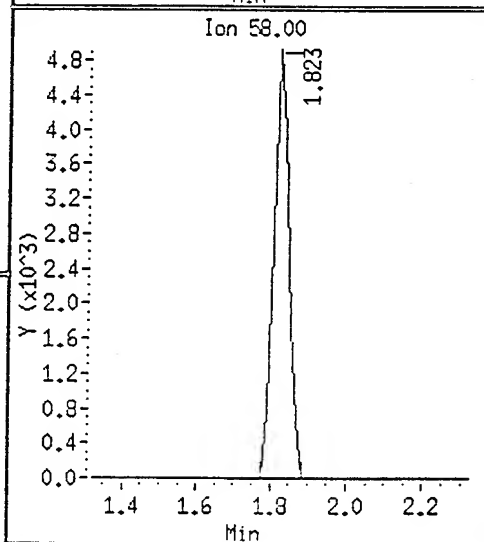
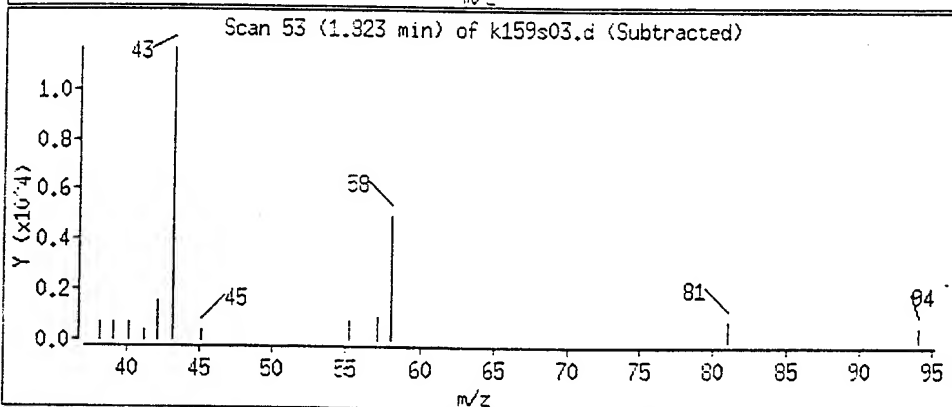
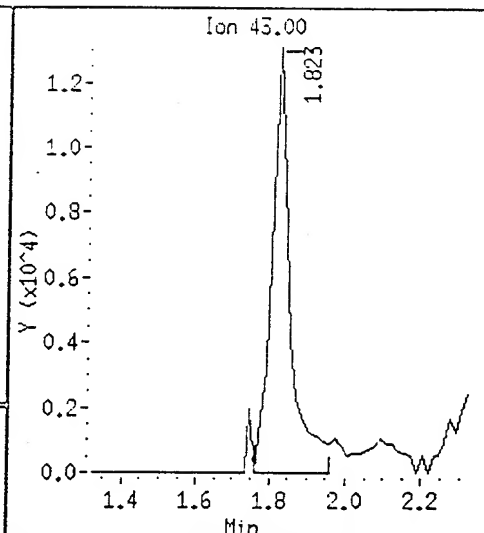
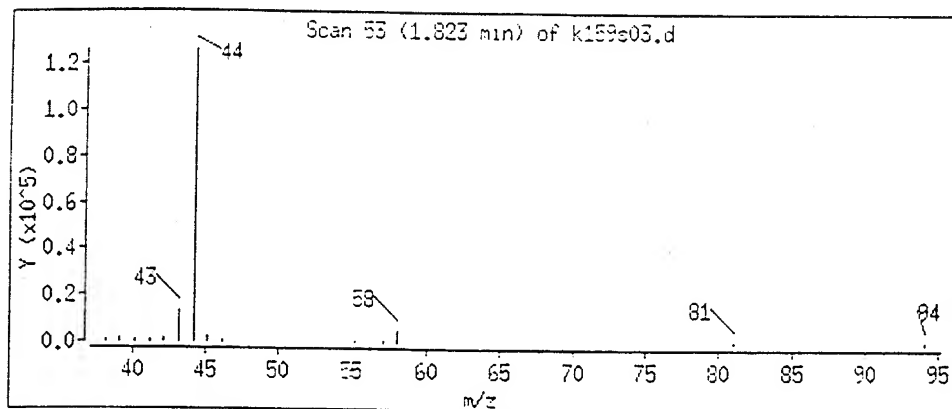
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.1

8 Acetone



SPL Labs

Data file : /chem/k.i/k060894.b/k159s04.d

Lab. Id. :

Inj Date : 08-JUN-1994 21:57

Operator :

Smp Info : 9406119-8240S-03A X1

Misc Info :

Comment :

Method : /chem/k.i/k060894.b/kclps.m

Meth Date : 09-Jun-1994 11:53 hillery

Cal Date : 08-JUN-1994 16:01

Als bottle: 21

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.519	(1.000)	54169	50	(Q)
8 Acetone	43.00	1.822	(0.723)	21456	24	24 <i>show</i>
S 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	147225	49	49
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	385364	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	256556	50	
36 Tetrachloroethene	164.00	6.504	(0.874)	22811	17	17 <i>show</i>
S 38 Toluene-d8	98.00	5.247	(0.705)	402218	59	59
S 42 Bromofluorobenzene	95.00	9.520	(1.279)	122755	43	43

QC Flag Legend

Q - Qualifier signal failed the ratio test.



Certificate of Analysis No. 9406119-03

Operational Tech

SAMPLE ID: A-05 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/08/94 21:57:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed			
	B = Compound present in Method Blank	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 24	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	17	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	49	98.08	70-121
\$ 38 Toluene-d8	50	59	117.63	84-138
\$ 42 Bromofluorobenzene	50	43	85.34	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: k.i
 Lab File ID: k159s04.d
 Lab Sample ID:
 Analysis Type: VOA
 Quant Type: ISTD
 Method File: /chem/k.i/k060894.b/kclps.m
 Misc Info:

Calibration Date: 06/08/94
 Calibration Time: 1601
 Sample Type: SCIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	54169	-13.18
18 1,4-Difluorobenzene	436788	218394	873576	385364	-11.77
33 Chlorobenzene-d5	349737	174868	699474	256556	-26.64

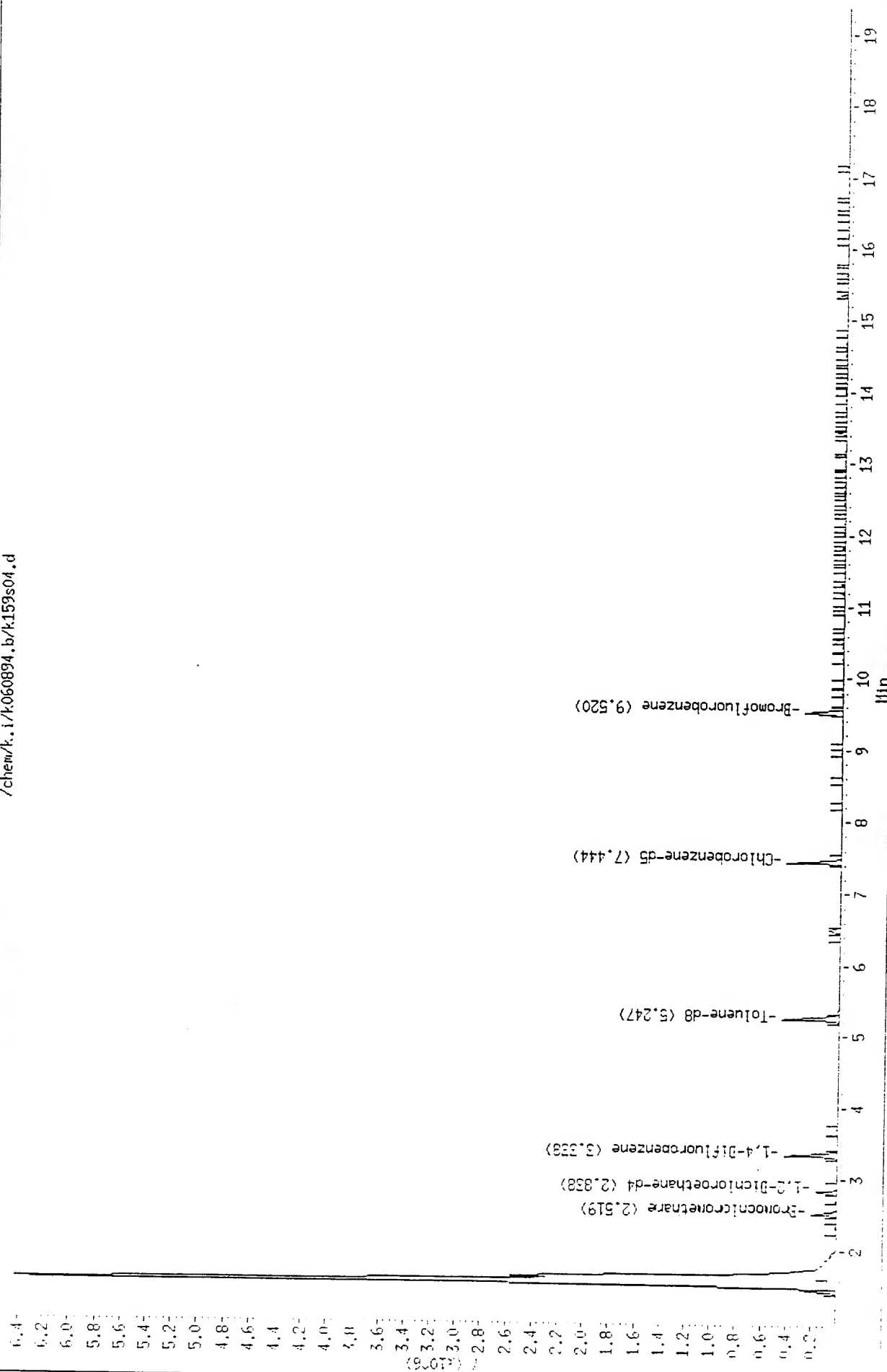
COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.04
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s04.d
Date : 08-JUN-1994 21:57
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25

/chem/k.i/k060894.b/k159s04.d



Data File: /chem/k.1/k060894.b/k159s04.d

Page 5

Date : 08-JUN-1994 21:57

Instrument : K.1

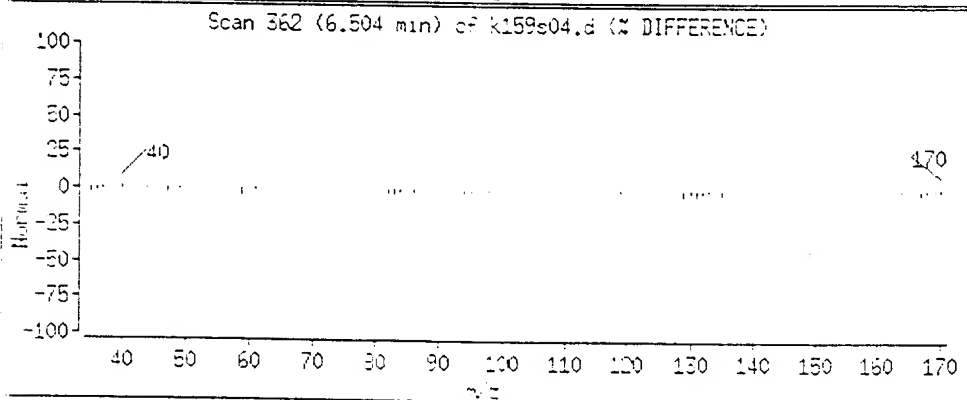
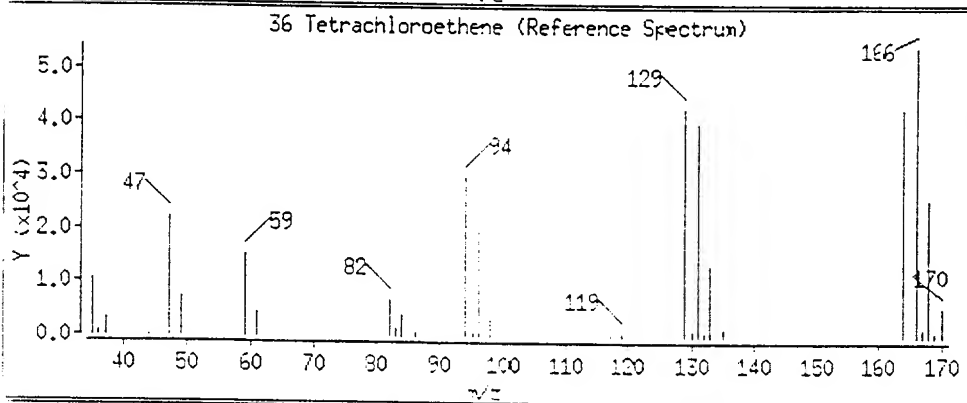
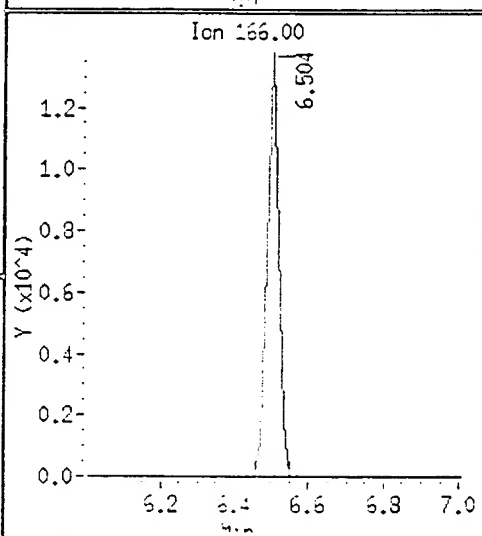
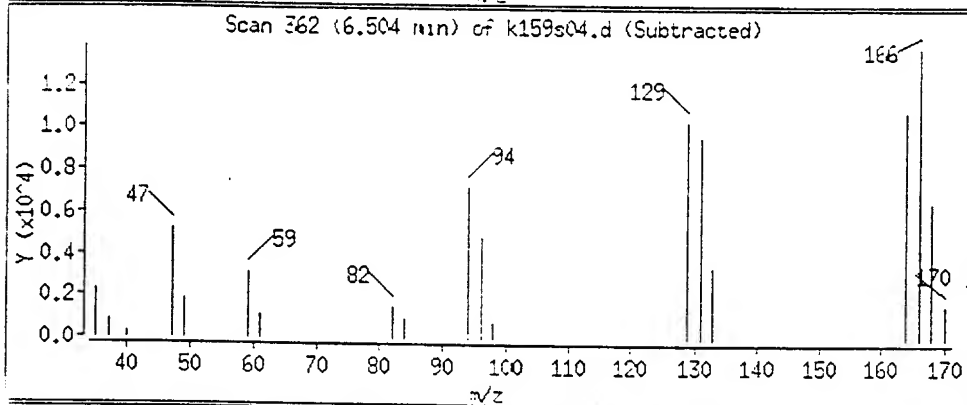
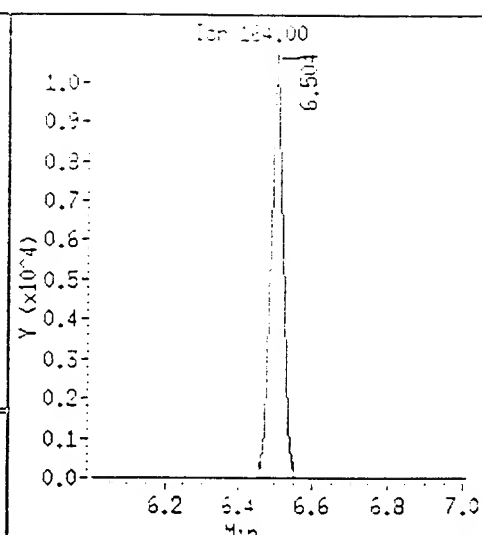
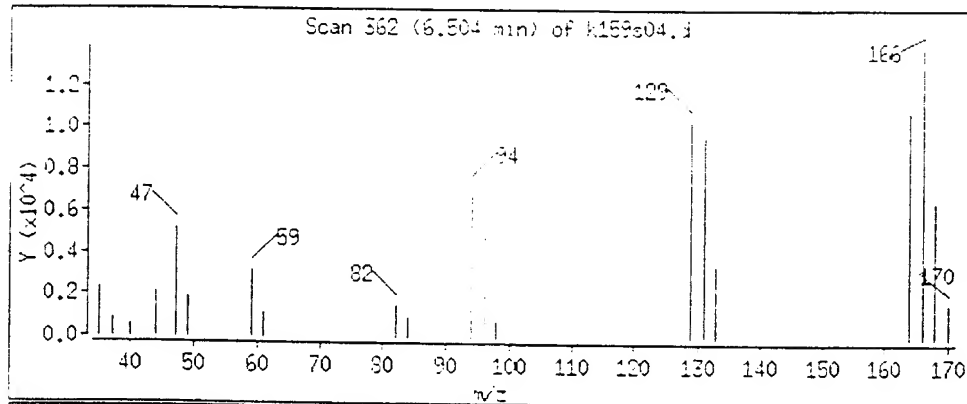
Sample ID :

Column phase :

Column diameter : 0.25

Volume injected (uL) : 0.0

36 Tetrachloroethene





Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	PQL*	UNITS	
Acetone	B 18	10	$\mu\text{g/Kg}$	
Benzene	ND	5	$\mu\text{g/Kg}$	
Bromodichloromethane	ND	5	$\mu\text{g/Kg}$	
Bromoform	ND	5	$\mu\text{g/Kg}$	
Bromomethane	ND	10	$\mu\text{g/Kg}$	
2-Butanone	ND	20	$\mu\text{g/Kg}$	
Carbon Disulfide	ND	5	$\mu\text{g/Kg}$	
Carbon Tetrachloride	ND	5	$\mu\text{g/Kg}$	
Chlorobenzene	ND	5	$\mu\text{g/Kg}$	
Chloroethane	ND	10	$\mu\text{g/Kg}$	
2-Chloroethylvinylether	ND	10	$\mu\text{g/Kg}$	
Chloroform	ND	5	$\mu\text{g/Kg}$	
Chloromethane	ND	10	$\mu\text{g/Kg}$	
Dibromochloromethane	ND	5	$\mu\text{g/Kg}$	
1,1-Dichloroethane	ND	5	$\mu\text{g/Kg}$	
1,1-Dichloroethene	ND	5	$\mu\text{g/Kg}$	
1,2-Dichloroethane	ND	5	$\mu\text{g/Kg}$	
total-1,2-Dichloroethene	ND	5	$\mu\text{g/Kg}$	
1,2-Dichloropropane	ND	5	$\mu\text{g/Kg}$	
cis-1,3-Dichloropropene	ND	5	$\mu\text{g/Kg}$	
trans-1,3-Dichloropropene	ND	5	$\mu\text{g/Kg}$	
Ethylbenzene	ND	5	$\mu\text{g/Kg}$	
2-Hexanone	ND	10	$\mu\text{g/Kg}$	
Methylene Chloride	ND	5	$\mu\text{g/Kg}$	
4-Methyl-2-Pentanone	ND	10	$\mu\text{g/Kg}$	
Styrene	ND	5	$\mu\text{g/Kg}$	
1,1,2,2-Tetrachloroethane	ND	5	$\mu\text{g/Kg}$	
Tetrachloroethene	ND	5	$\mu\text{g/Kg}$	
Toluene	ND	5	$\mu\text{g/Kg}$	
1,1,1-Trichloroethane	ND	5	$\mu\text{g/Kg}$	
1,1,2-Trichloroethane	ND	5	$\mu\text{g/Kg}$	
Trichloroethene	ND	5	$\mu\text{g/Kg}$	
Trichlorofluoromethane	ND	5	$\mu\text{g/Kg}$	
Vinyl Acetate	ND	10	$\mu\text{g/Kg}$	
Vinyl Chloride	ND	10	$\mu\text{g/Kg}$	
Xylenes (total)	ND	5	$\mu\text{g/Kg}$	

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-04

Operational Tech

SAMPLE ID: A-05 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/08/94 22:46:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed			
	B = Compound present in Method Blank	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s05.d
Lab. Id. : Quant Type: ISTD
Inj Date : 08-JUN-1994 22:21 Autotune Date: {
Operator : Inst ID: k.i
Smp Info : 9406119-8240S-04A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 27-Jun-1994 10:19 csadmin
Cal Date : 08-JUN-1994 16:01 Cal File: k159cc3.d
Als bottle: 22
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/Kg)
-----	----	==	=====	=====	-----	-----
* 1 Bromochloromethane	128.00	2.520	(1.000)	54547	50	(Q)
8 Acetone	43.00	1.823	(0.723)	16382	18	18
\$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	147688	49	49
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	382689	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	312469	50	
\$ 38 Toluene-d8	98.00	5.247	(0.705)	420177	50	50
\$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	177940	51	51

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/k.i/k060894.b/k159s05.d

Date : 08-JUN-1994 22:21

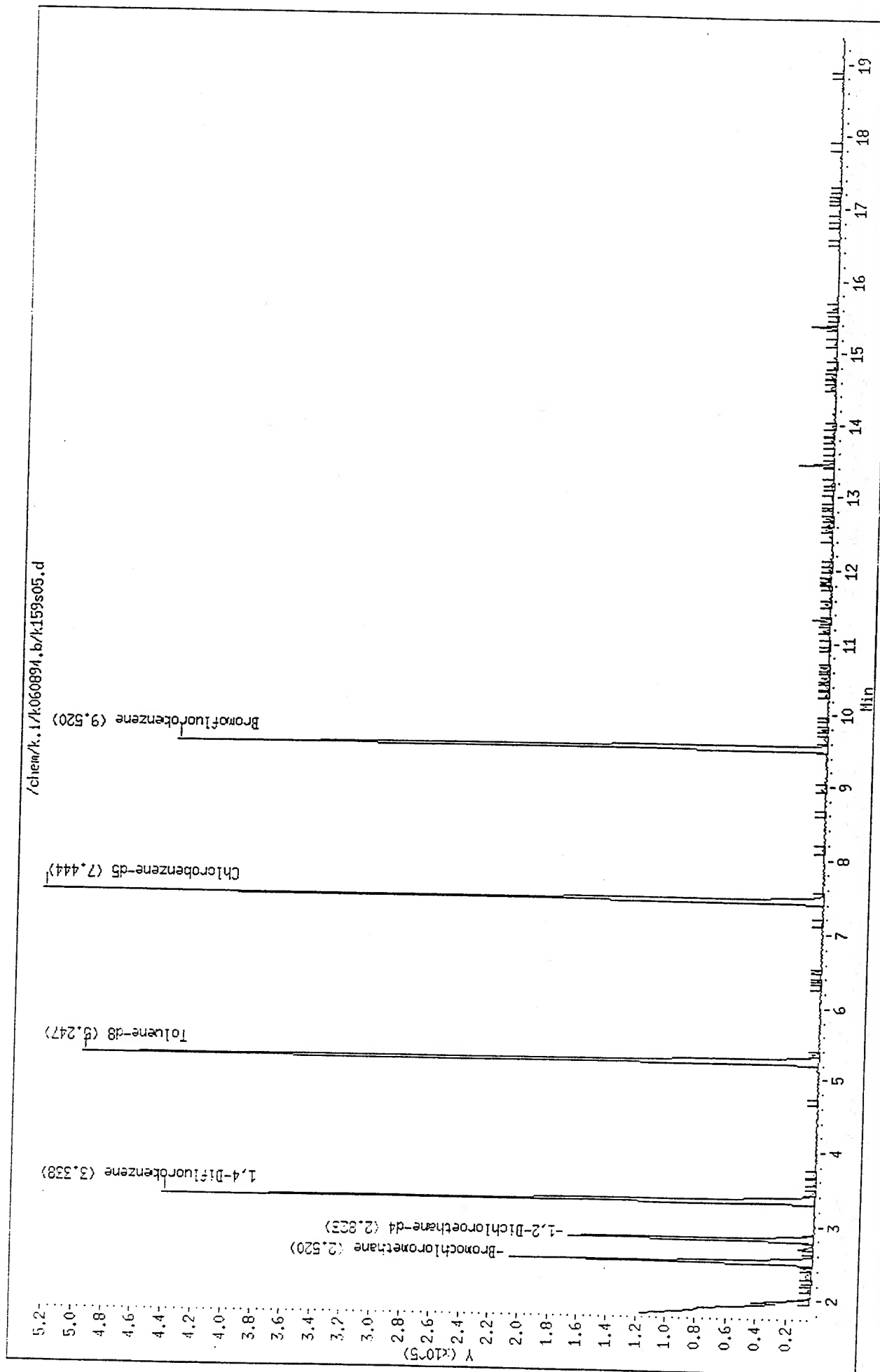
Instrument : k.i

Sample ID :

Column phase :

Volume Injected (μL) : 0.0

Column diameter : 0.25



Date : 08-JUN-1994 22:21

Instrument : k.i

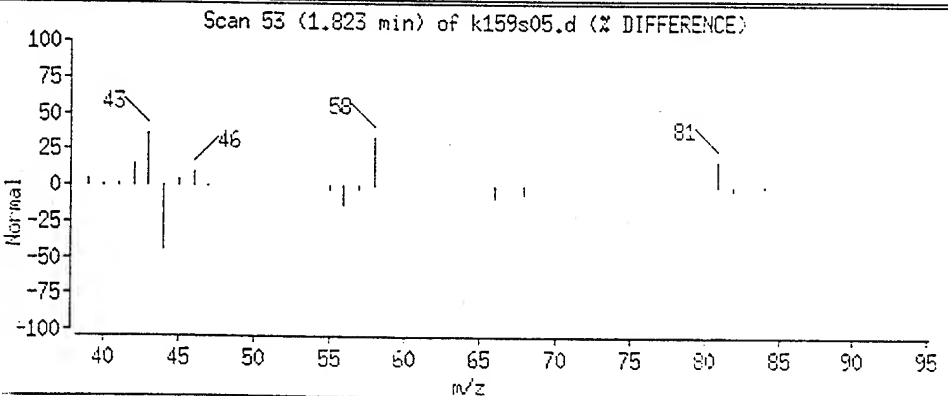
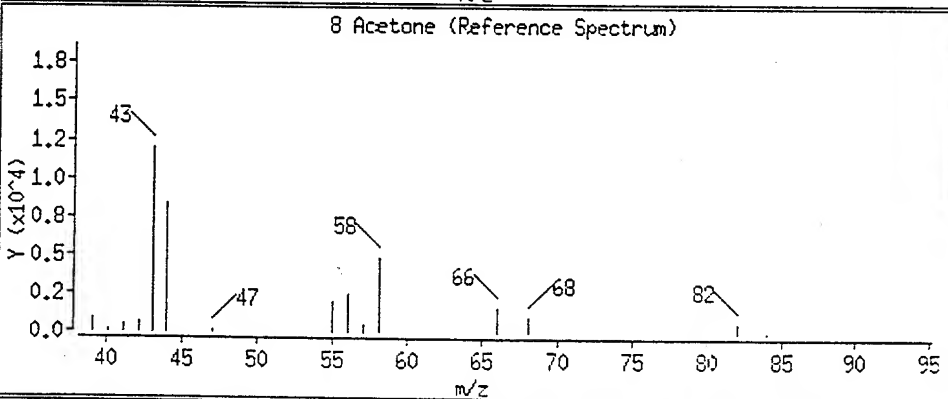
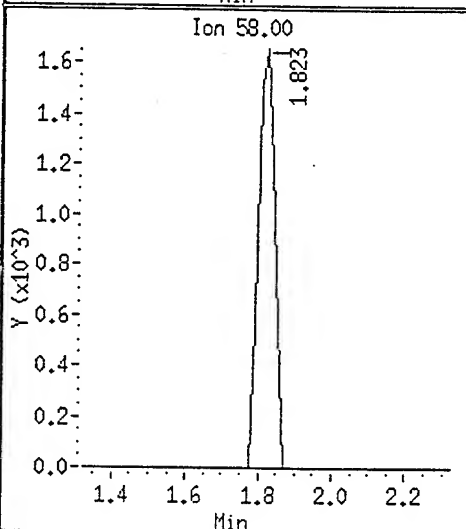
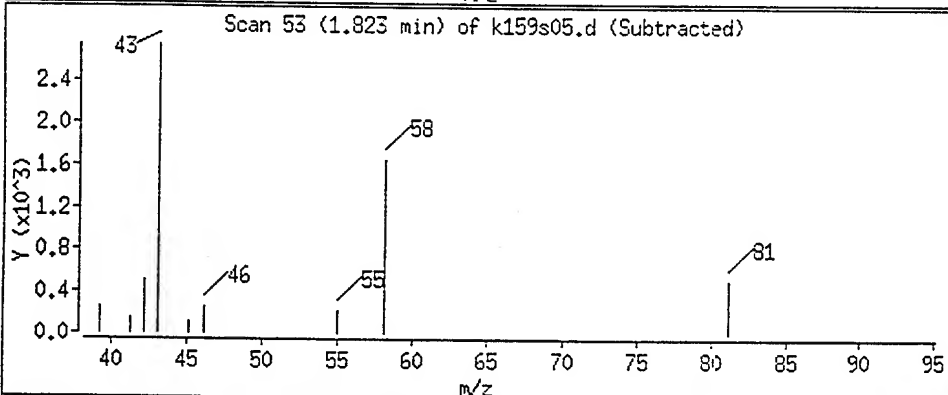
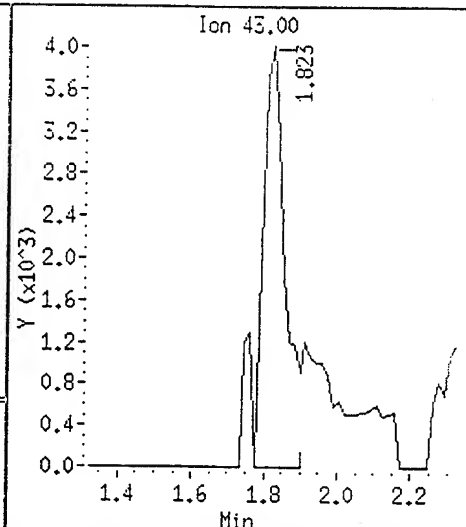
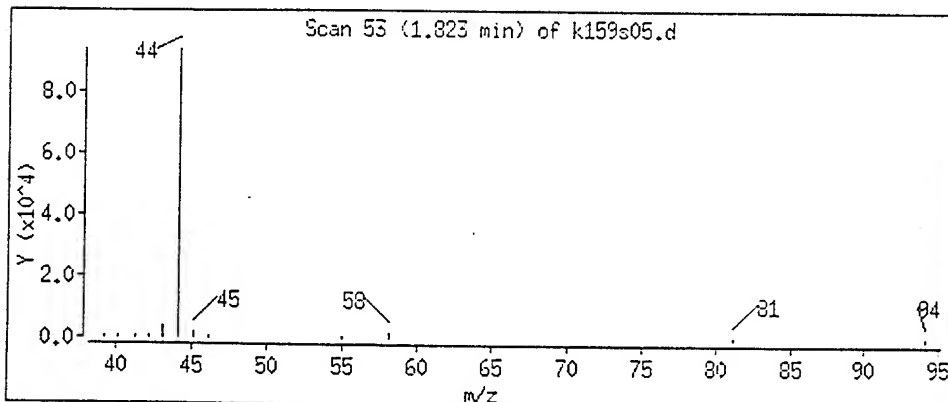
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone



SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	49	97.71	70-121
\$ 38 Toluene-d8	50	50	100.89	84-138
\$ 42 Bromofluorobenzene	50	51	101.57	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s05.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	62390	31195	124780	54547	-12.57
18 1,4-Difluorobenzene	436788	218394	873576	382689	-12.39
33 Chlorobenzene-d5	349737	174868	699474	312469	-10.66

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	PQL*		
Acetone	B 20	10		µg/Kg
Benzene	ND	5		µg/Kg
Bromodichloromethane	ND	5		µg/Kg
Bromoform	ND	5		µg/Kg
Bromomethane	ND	10		µg/Kg
2-Butanone	ND	20		µg/Kg
Carbon Disulfide	ND	5		µg/Kg
Carbon Tetrachloride	ND	5		µg/Kg
Chlorobenzene	ND	5		µg/Kg
Chloroethane	ND	10		µg/Kg
2-Chloroethylvinylether	ND	10		µg/Kg
Chloroform	ND	5		µg/Kg
Chloromethane	ND	10		µg/Kg
Dibromochloromethane	ND	5		µg/Kg
1,1-Dichloroethane	ND	5		µg/Kg
1,1-Dichloroethene	ND	5		µg/Kg
1,2-Dichloroethane	ND	5		µg/Kg
total-1,2-Dichloroethene	ND	5		µg/Kg
1,2-Dichloropropane	ND	5		µg/Kg
cis-1,3-Dichloropropene	ND	5		µg/Kg
trans-1,3-Dichloropropene	ND	5		µg/Kg
Ethylbenzene	ND	5		µg/Kg
2-Hexanone	ND	10		µg/Kg
Methylene Chloride	ND	5		µg/Kg
4-Methyl-2-Pentanone	ND	10		µg/Kg
Styrene	ND	5		µg/Kg
1,1,2,2-Tetrachloroethane	ND	5		µg/Kg
Tetrachloroethene	7	5		µg/Kg
Toluene	ND	5		µg/Kg
1,1,1-Trichloroethane	ND	5		µg/Kg
1,1,2-Trichloroethane	ND	5		µg/Kg
Trichloroethene	ND	5		µg/Kg
Trichlorofluoromethane	ND	5		µg/Kg
Vinyl Acetate	ND	10		µg/Kg
Vinyl Chloride	ND	10		µg/Kg
Xylenes (total)	ND	5		µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-05

Operational Tech

SAMPLE ID: A-06 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS	
	RESULTS	PQL*		
ANALYZED BY: HLW				
DATE/TIME: 06/08/94 23:10:00				
METHOD: 8240, Volatile Organics - Soil				
NOTES:	* - Practical Quantitation Limit	ND - Not Detected		
	NA - Not Analyzed			
	B = Compound present in Method Blank	D - Surr. diluted out.		

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s06.d
Lab. Id. :
Inj Date : 08-JUN-1994 22:46
Operator :
Smp Info : 9406119-8240S-05A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 23
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i
Cal File: k159cc3.d
Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----	----	==	-----	-----	-----
* 1 Bromochloromethane	128.00	2.520 (1.000)	50232	50	(Q)	
8 Acetone	43.00	1.823 (0.723)	16424	20	20	440W
\$ 16 1,2-Dichloroethane-d4	65.00	2.838 (1.126)	134573	48	48	
* 18 1,4-Difluorobenzene	114.00	3.338 (1.000)	373875	50		
* 33 Chlorobenzene-d5	117.00	7.444 (1.000)	250156	50		
36 Tetrachloroethene	164.00	6.505 (0.874)	9136	7	7	440W
\$ 38 Toluene-d8	98.00	5.247 (0.705)	390641	58	58	
\$ 42 Bromofluorobenzene	95.00	9.520 (1.279)	123937	44	44	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	48	96.68	70-121
\$ 38 Toluene-d8	50	58	117.17	84-138
\$ 42 Bromofluorobenzene	50	44	88.37	59-113

* - Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s06.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	50232	-19.49
18 1,4-Difluorobenzene	436788	218394	873576	373875	-14.40
33 Chlorobenzene-d5	349737	174868	699474	250156	-28.47

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.04
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s06.d

Date : 08-JUN-1994 22:46

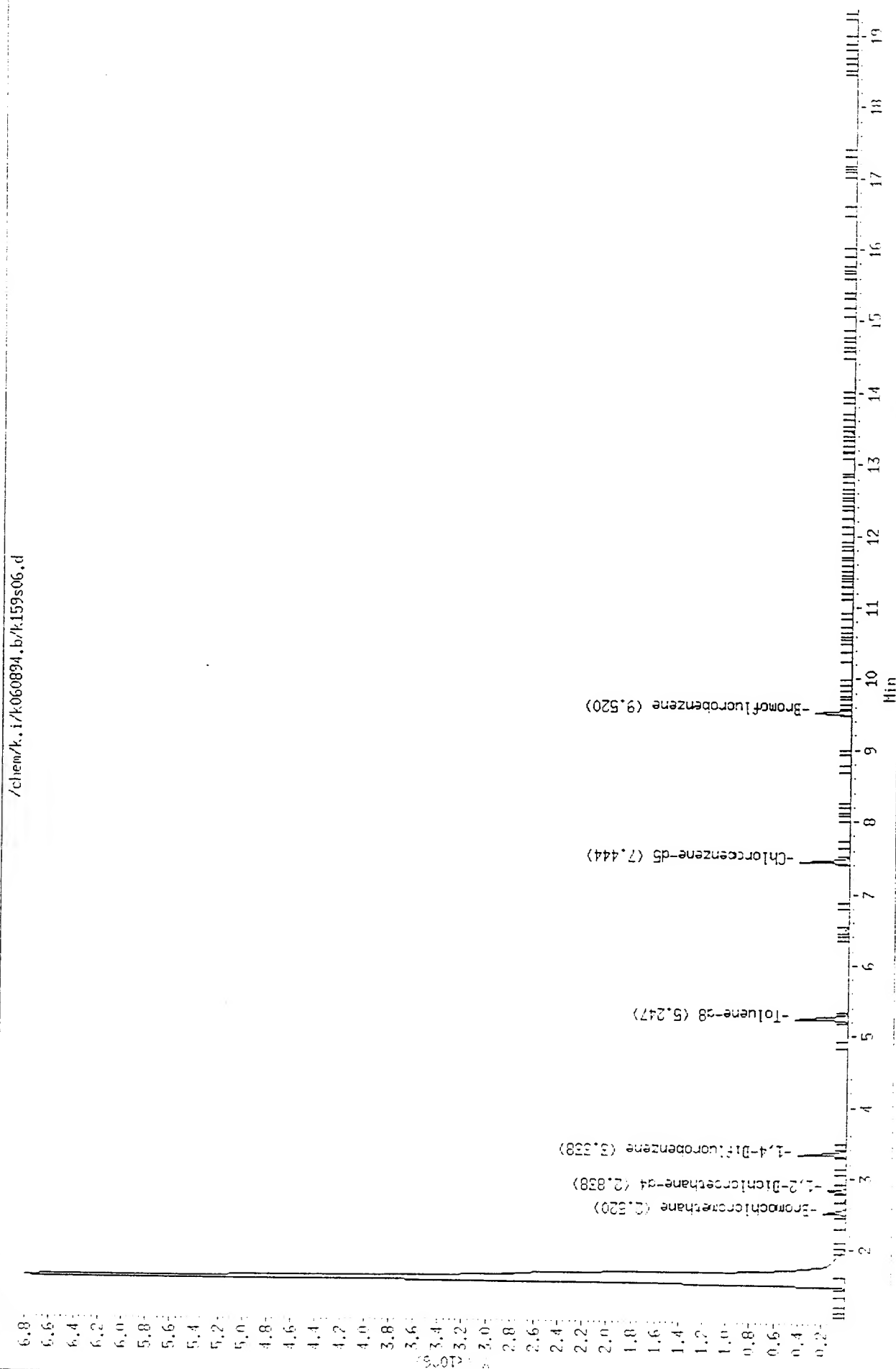
Instrument : K.I

Sample ID :

Column phase :

Volume Injected (ul) : 0.0

Column diameter : 0.25



Date : 06-JUN-1994 12:46

Instrument : k11

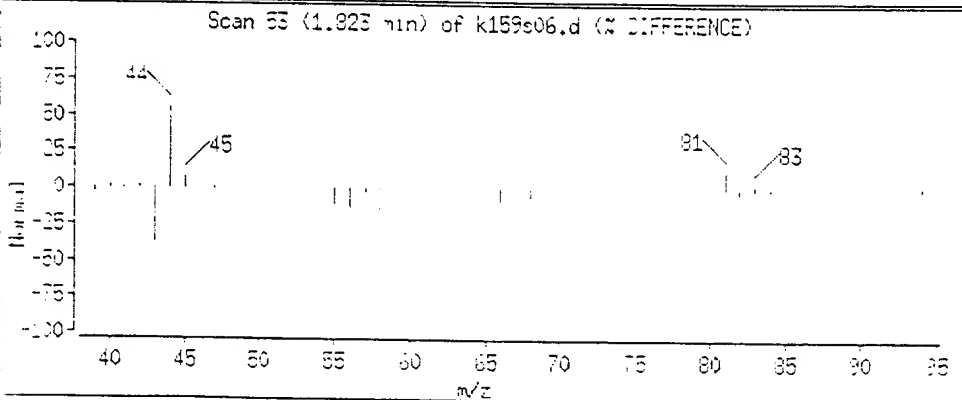
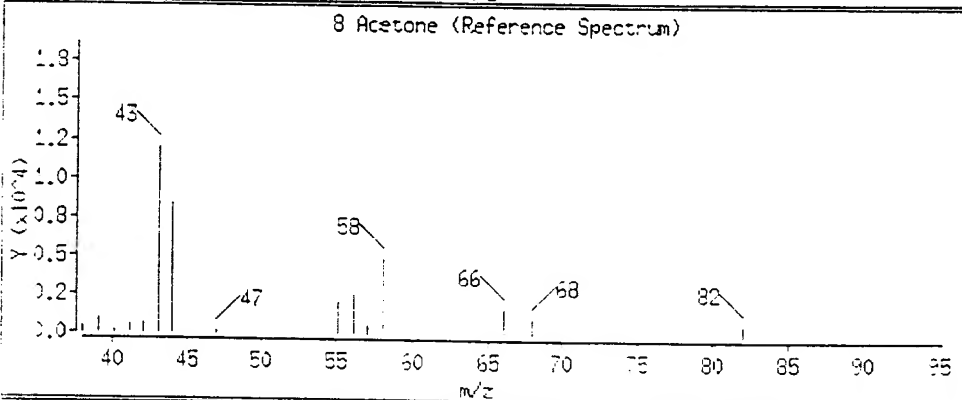
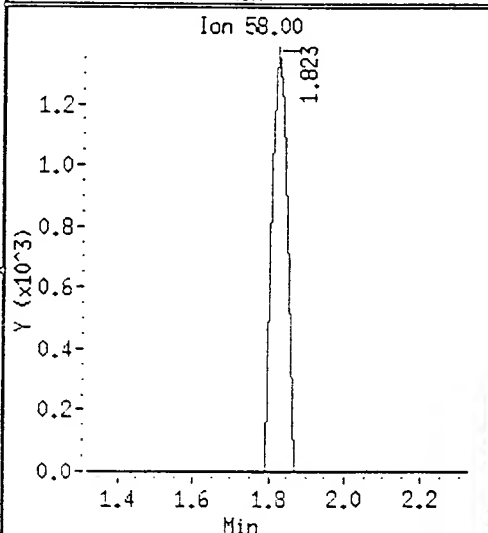
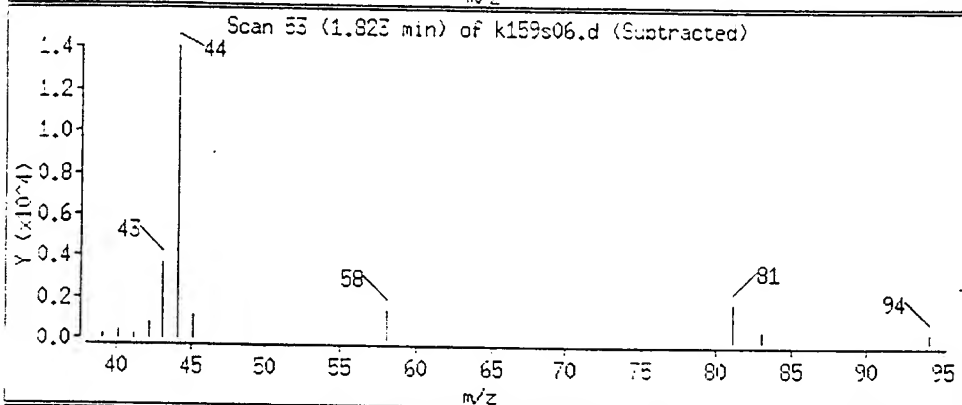
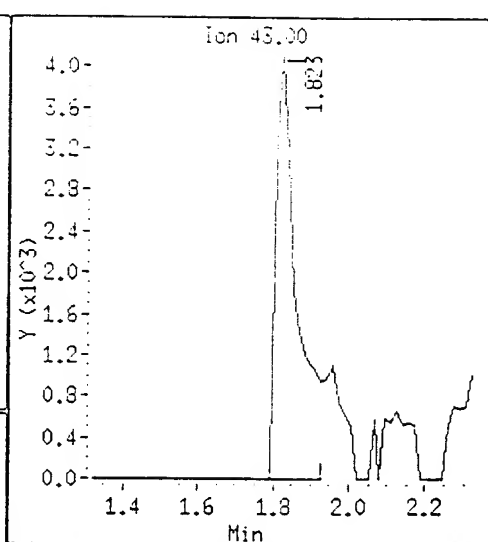
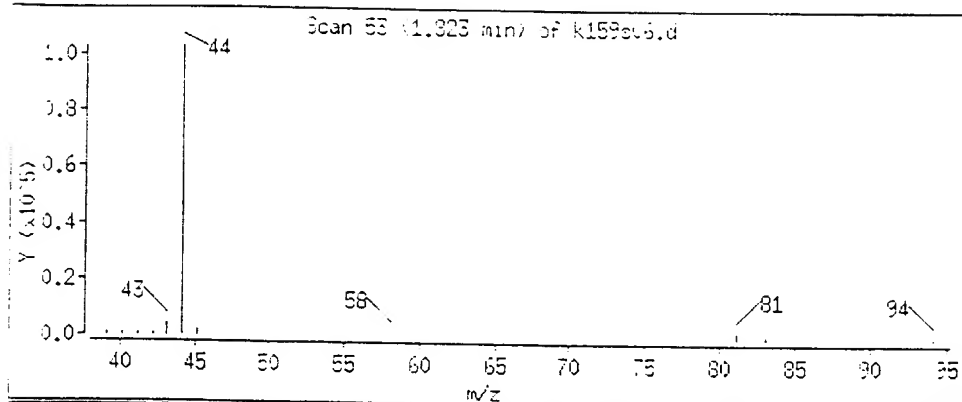
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (UL) : 0.0

3 Acetone



Date : 08-JUN-1994 22:46

Instrument : K1

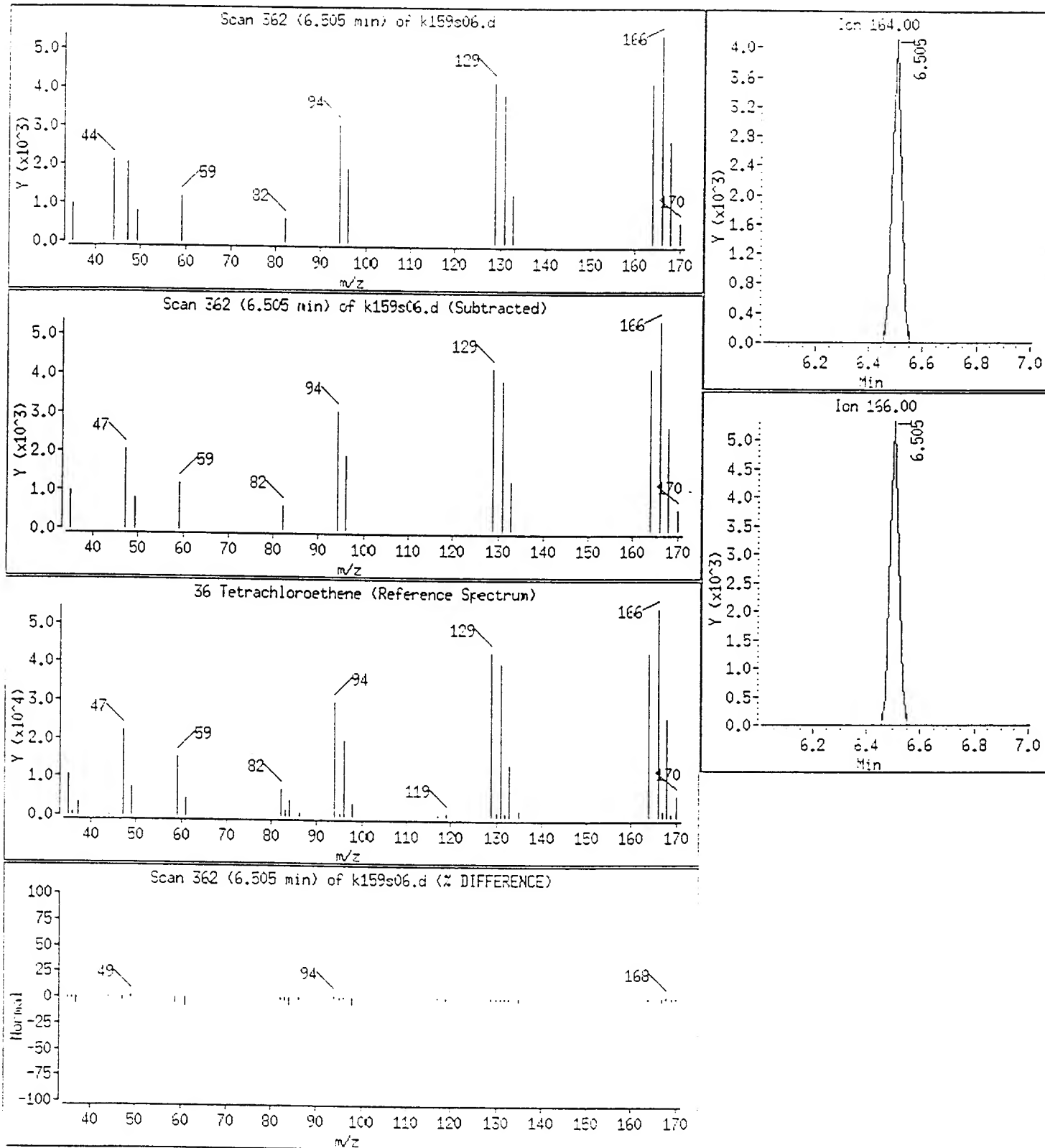
Sample ID :

Column phase :

Column diameter : 0.25

Volume injected (uL) : 0.0

36 Tetrachloroethene





Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 20	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-06

Operational Tech

SAMPLE ID: A-06 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
ANALYZED BY: HLB			
DATE/TIME: 06/08/94 23:10:00			
METHOD: 8240, Volatile Organics - Soil			
NOTES:	* - Practical Quantitation Limit	ND - Not Detected	
	NA - Not Analyzed		
	B = Compound present in Method Blank	D - Surr. diluted out.	
COMMENTS:			

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 11	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-08

Operational Tech

SAMPLE ID: A-07 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
ANALYZED BY: HLW			
DATE/TIME: 06/08/94 23:58:00			
METHOD: 8240, Volatile Organics - Soil			
NOTES:	* - Practical Quantitation Limit	ND - Not Detected	
	NA - Not Analyzed		
	B = Compound present in Method Blank	D - Surr. diluted out.	
COMMENTS:			

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s09.d
Lab. Id. :
Inj Date : 08-JUN-1994 23:58
Operator :
Smp Info : 9406119-8240S-08A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 26
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i
Cal File: k159cc3.d
Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
-----	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.536	(1.000)	52746	50	(Q) 11.5
8 Acetone	43.00	1.823	(0.719)	9270	11	11
\$ 16 1,2-Dichloroethane-d4	65.00	2.839	(1.119)	137760	47	47
* 18 1,4-Difluorobenzene	114.00	3.339	(1.000)	403004	50	
* 33 Chlorobenzene-d5	117.00	7.445	(1.000)	317644	50	
\$ 38 Toluene-d8	98.00	5.263	(0.707)	446120	53	53
\$ 42 Bromofluorobenzene	95.00	9.521	(1.279)	174813	49	49

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/k.i/k060894.b/k159s09.d
Report Date: 09-Jun-1994 11:54

Page 3

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	47	94.25	70-121
\$ 38 Toluene-d8	50	53	105.38	84-138
\$ 42 Bromofluorobenzene	50	49	98.16	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s09.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	62390	31195	124780	52746	-15.46
18 1,4-Difluorobenzene	436788	218394	873576	403004	-7.73
33 Chlorobenzene-d5	349737	174868	699474	317644	-9.18

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.54	0.59
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s09.d

Date : 08-JUN-1994 23:58

Instrument : k.i

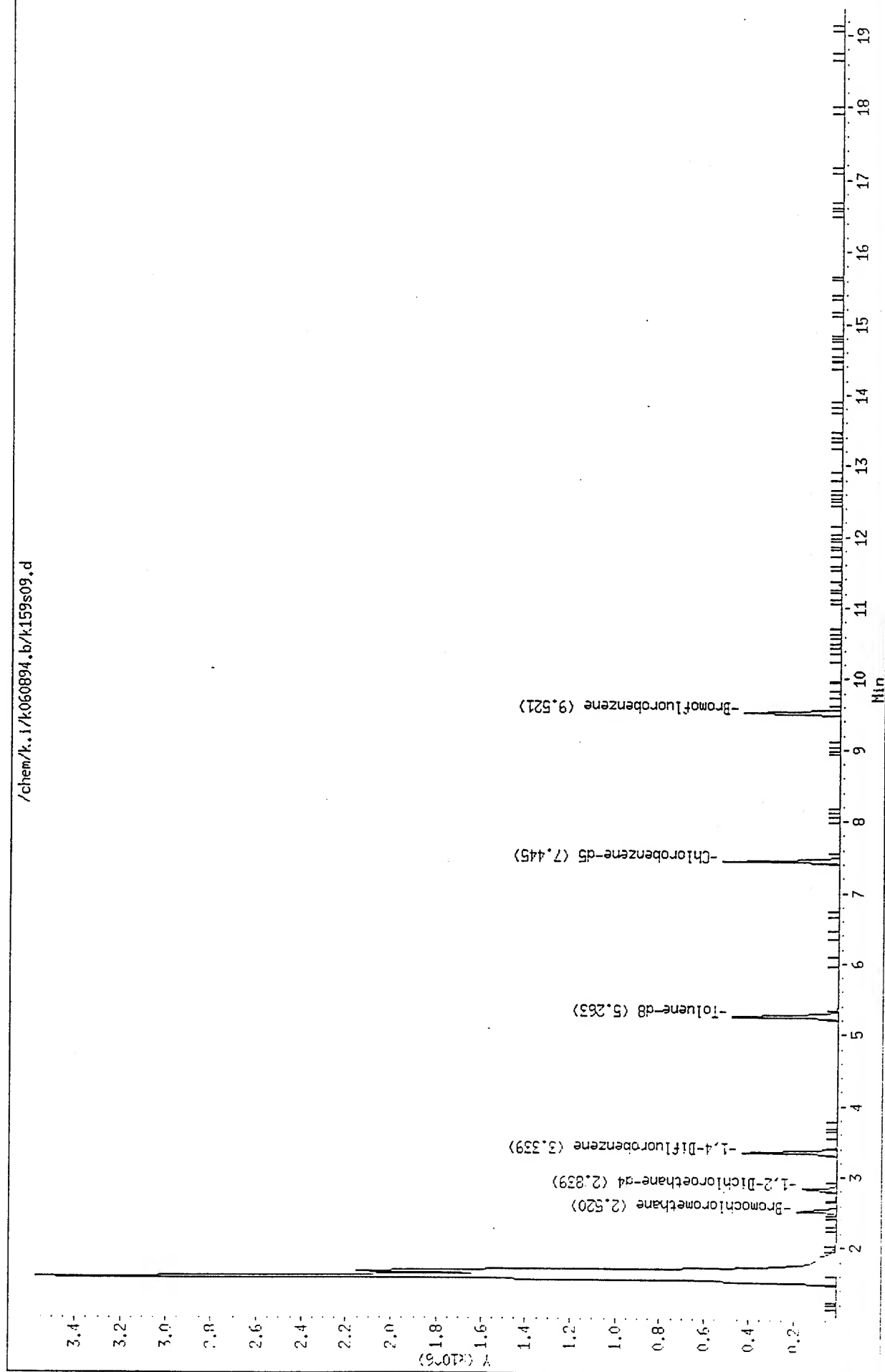
Sample ID :

Column phase :

Volume Injected (uL) : 0.0

Column diameter : 0.25

/chem/k.i/k060894.b/k159s09.d



Date : 08-JUN-1994 23:58

Instrument : k.i

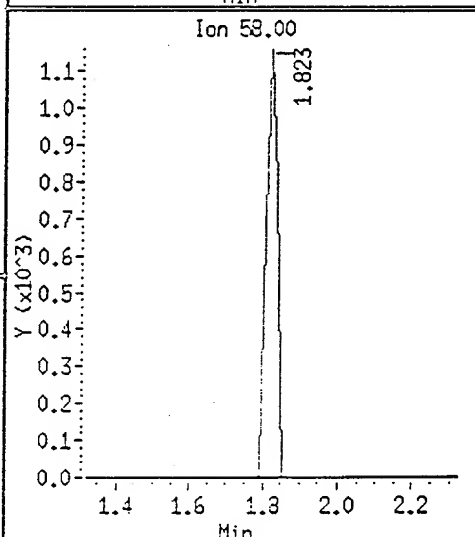
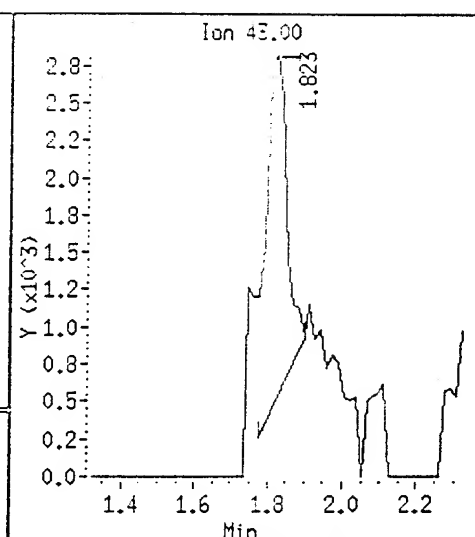
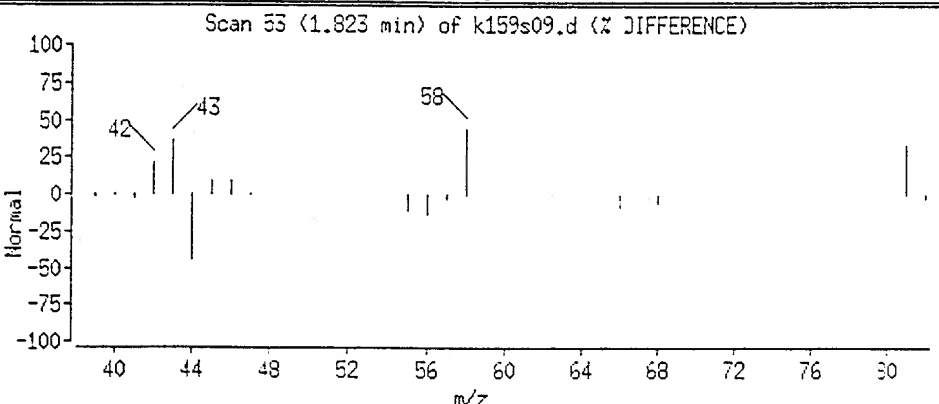
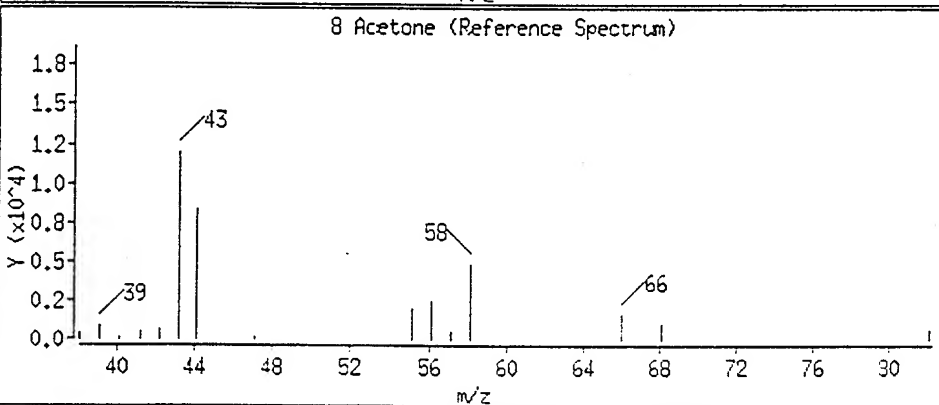
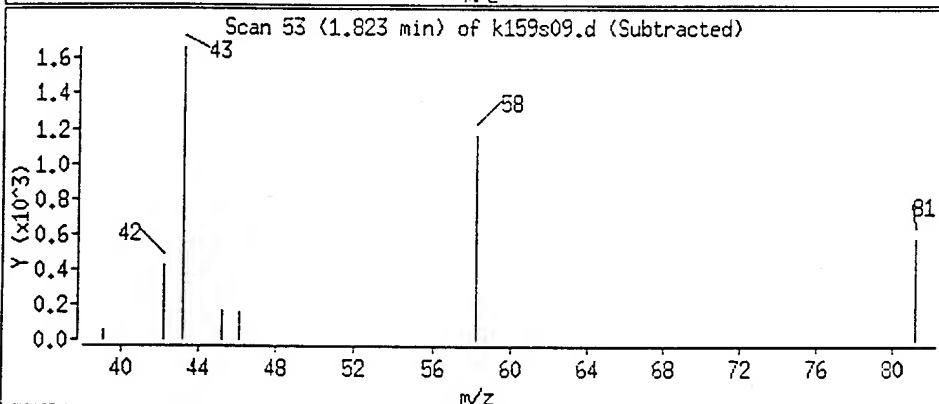
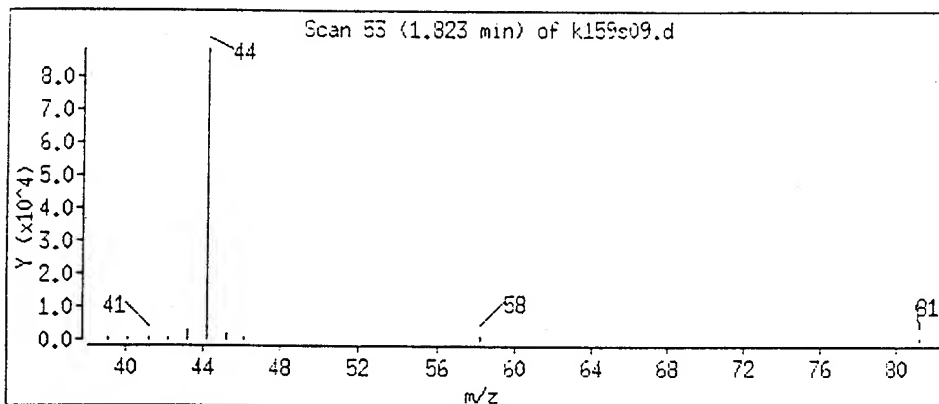
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone



2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
	=====	=====	=====	=====	=====	=====
01	A-01 BH INT	102	100	94	0	0
02	A-01 BH INT	100	100	94	0	0
03	A-02 BH INT	104	112	94	0	0
04	A-02 BH INT	100	100	92	0	0
05	A-03 BH INT	112	92	92	0	0
06	A-03 BH INT	114	92	92	0	0
07	A-04 BH INT	102	102	96	0	0
08	A-04 BH INT	106	98	96	0	0
09	A-05 BH INT	118	86	98	0	0
10	A-05 BH INT	100	102	98	0	0
11	A-06 BH INT	116	88	96	0	0
12	A-06 BH INT	100	100	98	0	0
13	A-07 BH INT	114	88	98	0	0
14	A-07 BH INT	106	98	94	0	0
15	VSBLK02	98	102	104	0	0
16	VSBLK02	100	102	100	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (84-138)
 SMC2 (BFB) = Bromofluorobenzene (59-113)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3B
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____
 Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119
 Matrix Spike - EPA Sample No.: A-01_EH_INT_1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	51.00	102	59-172
Trichloroethene	50.00	0	46.00	92	62-137
Benzene	50.00	0	47.00	94	66-142
Toluene	50.00	0	47.00	94	59-139
Chlorobenzene	50.00	0	46.00	92	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	50.00	54.00	108	6	22	59-172
Trichloroethene	50.00	46.00	92	0	24	62-137
Benzene	50.00	47.00	94	0	21	66-142
Toluene	50.00	47.00	94	0	21	59-139
Chlorobenzene	50.00	47.00	94	2	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: 8240S,9406119,,A-01 BH INT.1,L,S,9406119-11A,V,E,5.0G,
 CAP,K165CC1,K165BF1,K165B02,,,,35/4-150@8,INST K,

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: SPLHOUSTON Contract: _____

VSBLK02

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: K159B02 Lab Sample ID: VSBLK020608

Date Analyzed: 06/08/94 Time Analyzed: 1956

GC Column: CAP ID: _____ (mm) Heated Purge: (Y/N) Y

Instrument ID: K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A-03_BH_INT	9406119-09A	K159S10	0022
02	A-03_BH_INT	9406119-10A	K159S11	0046
03	A-04_BH_INT	9406119-01A	K159S02	2109
04	A-04_BH_INT	9406119-02A	K159S03	2133
05	A-05_BH_INT	9406119-03A	K159S04	2157
06	A-05_BH_INT	9406119-04A	K159S05	2246
07	A-06_BH_INT	9406119-05A	K159S06	2310
08	A-06_BH_INT	9406119-06A	K159S07	2310
09	A-07_BH_INT	9406119-07A	K159S08	2334
10	A-07_BH_INT	9406119-08A	K159S09	2358

COMMENTS: SPL,BLANK,,VSBLK02,L,S,VSBLK020608,V,B,X1,
CAP,K159CC3,K159BF2,K159B02,,,,45/3-220@8,INST K,



SPL Blank QC Report

page 1

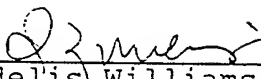
Matrix: Soil
Sample ID: VSBLK020608
Batch: VOK940608124900

Reported on: 06/16/94 15:45
Analyzed on: 06/08/94 19:56
Analyst: HLB

C o m p o u n d	Result	Detection Limit	Units
Chloromethane	ND	10	µg/Kg
Bromomethane	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Chloroethane	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
Acetone	24	10	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
Chloroform	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
2-Butanone	ND	20	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Benzene	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Bromoform	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
2-Hexanone	ND	10	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg

Notes

ND - Not detected.


Idelis Williams, QC Officer



SPL Blank QC Report

page 2

Matrix: Soil
Sample ID: VSBLK020608
Batch: VOK940608124900

Reported on: 06/16/94 15:45
Analyzed on: 06/08/94 19:56
Analyst: HLB


C o m p o u n d	Result	Detection Limit	Units
Styrene	ND	5	$\mu\text{g/Kg}$
Xylene (total)	ND	5	$\mu\text{g/Kg}$

S u r r o g a t e	Result	QC Criteria	Units
Toluene-d8	98	84-138	% Recovery
4-Bromofluorobenzene	102	59-113	% Recovery
1,2-Dichloroethane-d4	104	70-121	% Recovery

Samples in Batch 9406119-01 9406119-02 9406119-03 9406119-04
9406119-05 9406119-06 9406119-07 9406119-08
9406119-09 9406119-10

Notes

ND - Not detected.


Idelis Williams, QC Officer

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VSBLK02

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: K165B02 Lab Sample ID: VSBLK020614A

Date Analyzed: 06/14/94 Time Analyzed: 1211

GC Column: CAP ID: _____ (mm) Heated Purge: (Y/N) Y

Instrument ID: K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	A-01_BH_INT	9406119-11A	K165S01	1236
02	A-01_BH_INT	9406119-12A	K165S02	1350
03	A-02_BH_INT	9406119-13A	K165S03	1414
04	A-02_BH_INT	9406119-14A	K165S04	1236

COMMENTS: SPL,BLANK,,VSBLK02,L,S,VSBLK020614A,V,B,X1,
CAP,K165CC1,K165BF1,K165B02,,,,45/3-220@8,INST K,



SPL Blank QC Report

page 3

Matrix: Soil
Sample ID: VSBLK020614
Batch: VOK940614095800

Reported on: 06/16/94 15:45
Analyzed on: 06/14/94 12:11
Analyst: HLW

C o m p o u n d	Result	Detection Limit	Units
Chloromethane	ND	10	µg/Kg
Bromomethane	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Chloroethane	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
Acetone	ND	10	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
Chloroform	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
2-Butanone	ND	20	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Benzene	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Bromoform	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
2-Hexanone	ND	10	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg

Notes

ND - Not detected.

Idell's Williams
Idell's Williams, QC Officer



SPL Blank QC Report

page 4

Matrix: Soil
Sample ID: VSBLK020614
Batch: VOK940614095800

Reported on: 06/16/94 15:45
Analyzed on: 06/14/94 12:11
Analyst: HLW

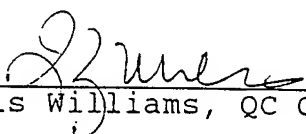
C o m p o u n d	Result	Detection Limit	Units
Styrene	ND	5	µg/Kg
Xylene (total)	ND	5	µg/Kg

S u r r o g a t e	Result	QC Criteria	Units
Toluene-d8	100	84-138	% Recovery
4-Bromofluorobenzene	102	59-113	% Recovery
1,2-Dichloroethane-d4	100	70-121	% Recovery

Samples in Batch 9406119-11 9406119-12 9406119-13 9406119-14

Notes

ND - Not detected.


Idelis Williams, QC Officer

Date : 08-JUN-94 12:49

Instrument : k.i

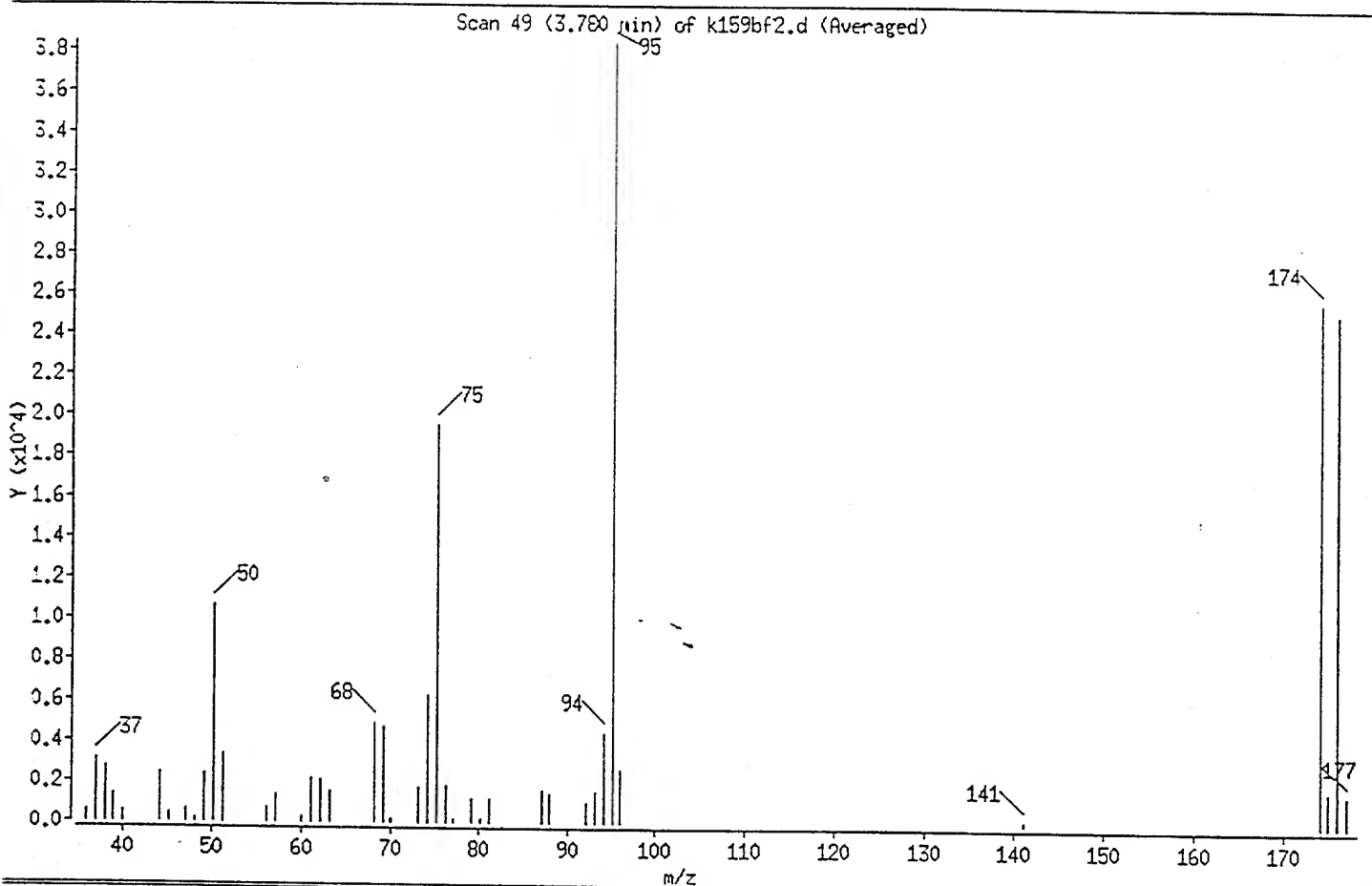
Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.0
50	8.00 - 40.00% of mass 95	27.6
75	30.00 - 66.00% of mass 95	51.1
96	5.00 - 9.00% of mass 95	6.9
173	Less than 2.00% of mass 174	0.0
174	50.00 - 120.00% of mass 95	67.3
175	4.00 - 9.00% of mass 174	6.6
176	95.00 - 101.00% of mass 174	97.9
177	5.00 - 9.00% of mass 176	6.1

Date : 08-JUN-94 12:49

Instrument : k.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0

Spectrum: Scans 49-51 (3.780 min), Subtraction Scan 47

Location of Maximum: 95.00

Number of points: 41

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	583	51.00	3357	74.00	6273	94.00	4450
37.00	3069	56.00	762	75.00	19614	95.00	38354
38.00	2734	57.00	1385	76.00	1853	96.00	2628
39.00	1349	60.00	244	77.00	175	141.00	176
40.00	41	61.00	2137	79.00	1182	174.00	25820
44.00	190	62.00	2110	80.00	190	175.00	1695
45.00	492	63.00	1514	81.00	1173	176.00	25289
47.00	674	68.00	4904	87.00	1658	177.00	1542
48.00	196	69.00	4730	88.00	1465		
49.00	2392	70.00	186	92.00	1006		
50.00	10567	73.00	1745	93.00	1542		

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i Injection Date: 08-JUN-1994 16:01
Lab File ID: k159cc3.d Init. Calibration Date(s): 06/08/94 06/08/94
Analysis Type: SOIL Init. Calibration Times: 16:01 16:28
Lab Sample ID: Method File: /chem/k.i/k060894.b/kclps.m
Quant Type: ISTD

COMPOUND	RRF	RF50	MIN	MAX
			RRF	RD
2 Chloromethane	2.565	3.041	0.010	18.6
3 Bromomethane	1.805	2.077	0.100	15.1
4 Vinyl Chloride	2.430	2.869	0.100	18.1
5 Chloroethane	1.492	1.688	0.010	13.1
6 Trichlorofluoromethane	2.337	2.679	0.010	14.6
7 Methylene Chloride	1.938	1.948	0.010	0.5
8 Acetone	1.333	0.826	0.010	38.0
9 Carbon Disulfide	6.351	6.976	0.010	9.8
10 1,1-Dichloroethene	1.720	1.909	0.100	11.0
11 1,1-Dichloroethane	3.924	4.216	0.200	7.4
12 trans-1,2-Dichloroethene	1.644	1.796	0.010	9.3
13 cis-1,2-Dichloroethene	1.805	1.968	0.010	9.0
M 14 1,2-Dichloroethene (total)	++++	++++	0.010	++++
15 Chloroform	3.935	3.875	0.200	1.5
\$ 16 1,2-Dichloroethane-d4	3.033	2.771	0.010	8.6
17 1,2-Dichloroethane	3.104	2.996	0.100	3.5
19 2-Butanone	0.277	0.177	0.010	36.0
20 1,1,1-Trichloroethane	0.421	0.420	0.100	0.3
21 Carbon Tetrachloride	0.371	0.379	0.100	2.2
22 Vinyl Acetate	0.103	0.152	0.010	47.5
23 Bromodichloromethane	0.385	0.365	0.200	5.2
24 1,2-Dichloropropane	0.334	0.315	0.010	5.6
25 cis-1,3-Dichloropropene	0.313	0.258	0.200	17.6
26 Trichloroethene	0.267	0.266	0.300	0.6
27 Benzene	1.102	1.098	0.500	0.3
28 Dibromochloromethane	0.247	0.217	0.100	12.1
29 trans-1,3-Dichloropropene	0.436	0.390	0.100	10.7
30 1,1,2-Trichloroethane	0.200	0.166	0.100	16.8
31 2-Chloroethylvinylether	0.615	0.602	0.010	2.0
32 Bromoform	0.142	0.114	0.100	19.9
34 4-Methyl-2-Pentanone	0.471	0.452	0.010	4.1
35 2-Hexanone	0.349	0.541	0.010	39.4
36 Tetrachloroethene	0.257	0.262	0.200	1.8
37 1,1,2,2-Tetrachloroethane	0.347	0.264	0.500	24.0
\$ 38 Toluene-d8	1.398	1.333	0.010	4.7
39 Toluene	0.820	0.803	0.400	2.1
40 Chlorobenzene	0.861	0.852	0.500	1.0
41 Ethylbenzene	0.479	0.478	0.100	0.2
\$ 42 Bromofluorobenzene	0.605	0.561	0.200	7.3
43 Styrene	0.599	0.541	0.300	9.7

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i Injection Date: 08-JUN-1994 16:01
Lab File ID: k159cc3.d Init. Calibration Date(s): 06/08/94 06/08/94
Analysis Type: SOIL Init. Calibration Times: 16:01 16:28
Lab Sample ID: Method File: /chem/k.i/k060894.b/kclps.m
Quant Type: ISTD

COMPOUND	RRF	RF50	MIN	MAX
			RRF	%D
44 m&p-Xylene	1.148	1.119	0.300	2.5
45 o-Xylene	0.545	0.540	0.300	0.9
M 46 Xylenes (total)	****	****	0.300	****

SPL Labs

Data file : /chem/k.i/k060894.b/k159cc3.d

Lab. Id. : Quant Type: ISTD
Inj Date : 08-JUN-1994 16:01 Autotune Date: {
Operator : Inst ID: k.i

Smp Info : 50 STD

Misc Info :

Comment :

Method : /chem/k.i/k060894.b/kclps.m

Meth Date : 09-Jun-1994 11:53 hillery

Cal Date : 08-JUN-1994 16:01

Als bottle: 8

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Cal File: k159cc3.d
Continuing Calibration Sample
Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng) (ug/Kg)
=====	=====	=====	==	=====	=====	=====
* 1 Bromochloromethane	128.00	2.521 (1.000)	62390	50		
2 Chloromethane	50.00	1.612 (0.639)	189744	59	59	
3 Bromomethane	94.00	1.702 (0.675)	129573	58	58	
4 Vinyl Chloride	62.00	1.657 (0.657)	179003	59	59	
5 Chloroethane	64.00	1.718 (0.681)	105308	57	57	
6 Trichlorofluoromethane	101.00	1.839 (0.729)	167124	57	57	
7 Methylene Chloride	84.00	1.975 (0.784)	121505	50	50	
8 Acetone	43.00	1.809 (0.717)	51554	31	31	
9 Carbon Disulfide	76.00	2.036 (0.808)	435211	55	55	
10 1,1-Dichloroethene	96.00	1.930 (0.766)	119114	56	56	
11 1,1-Dichloroethane	63.00	2.203 (0.874)	263046	54	54	
12 trans-1,2-Dichloroethene	96.00	2.127 (0.844)	112064	55	55	
13 cis-1,2-Dichloroethene	96.00	2.445 (0.970)	122778	55	55	
15 Chloroform	83.00	2.521 (1.000)	241773	49	49	
\$ 16 1,2-Dichloroethane-d4	65.00	2.824 (1.120)	172880	46	46	
17 1,2-Dichloroethane	62.00	2.869 (1.138)	186903	48	48	
* 18 1,4-Difluorobenzene	114.00	3.339 (1.000)	436788	50		
19 2-Butanone	43.00	2.339 (0.700)	77459	32	32	
20 1,1,1-Trichloroethane	97.00	2.854 (0.855)	183384	50	50	
21 Carbon Tetrachloride	117.00	3.066 (0.913)	165687	51	51	
22 Vinyl Acetate	43.00	2.218 (0.664)	66280	74	74	
23 Bromodichloromethane	83.00	3.824 (1.145)	159271	47	47	
24 1,2-Dichloropropane	63.00	3.672 (1.100)	137753	47	47	
25 cis-1,3-Dichloropropene	75.00	5.354 (1.604)	112828	41	41	
26 Trichloroethene	130.00	3.687 (1.104)	115992	50	50	
27 Benzene	78.00	3.036 (0.909)	479791	50	50	
28 Dibromochloromethane	129.00	6.097 (1.825)	94717	44	44	
29 trans-1,3-Dichloropropene	75.00	4.657 (1.395)	170245	45	45	
30 1,1,2-Trichloroethane	97.00	5.491 (1.644)	72689	42	42	

SPL Labs

Data file : /chem/k.i/k060894.b/k159s07.d
Lab. Id. :
Inj Date : 08-JUN-1994 23:10 Quant Type: ISTD
Operator : Autotune Date: {
Smp Info : 9406119-8240S-06A X1 Inst ID: k.i
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kc1ps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01 Cal File: k159cc3.d
Als bottle: 24
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
*****	----	--	-----	-----	-----	-----
* 1 Bromochloromethane	128.00	2.520	(1.000)	43566	50	(Q)
8 Acetone	43.00	1.823	(0.723)	14323	20	20 <i>HOW</i>
\$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	119008	49	49
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	291190	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	241989	50	
\$ 38 Toluene-d8	98.00	5.247	(0.705)	321285	50	50
\$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	136149	50	50

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	49	98.58	70-121
\$ 38 Toluene-d8	50	50	99.62	84-138
\$ 42 Bromofluorobenzene	50	50	100.35	59-113

* - Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s07.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	43566	-30.17
18 1,4-Difluorobenzene	436788	218394	873576	291190	-33.33
33 Chlorobenzene-d5	349737	174868	699474	241989	-30.81

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s07.d

Date : 08-JUN-1994 23:10

Instrument : I.i.i

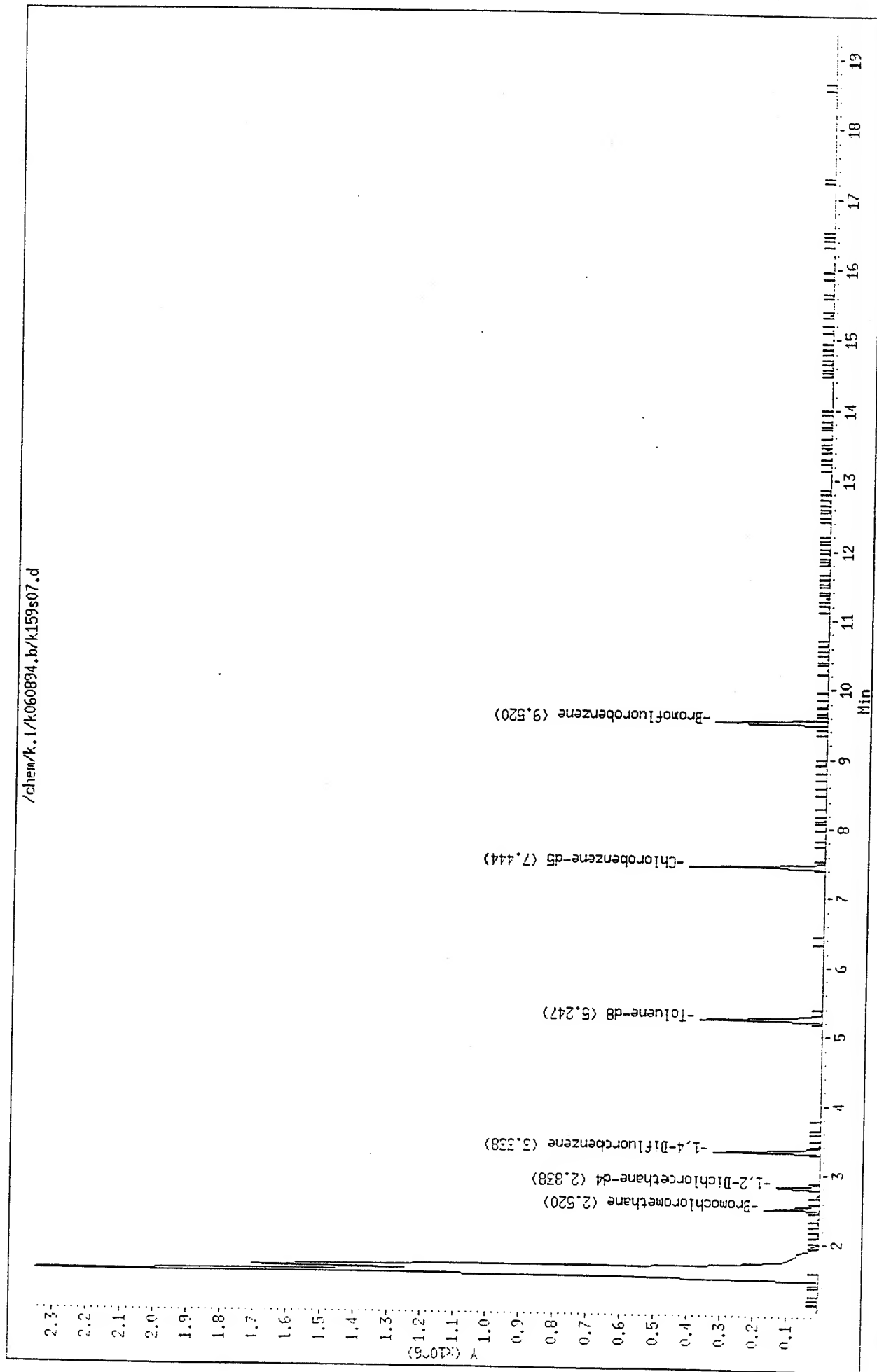
Sample ID :

Column phase :

Volume Injected (uL) : 0.0

Column diameter : 0.25

/chem/k.i/k060894.b/k159s07.d



Date : 08-JUN-1994 23:10

Instrument : k.i

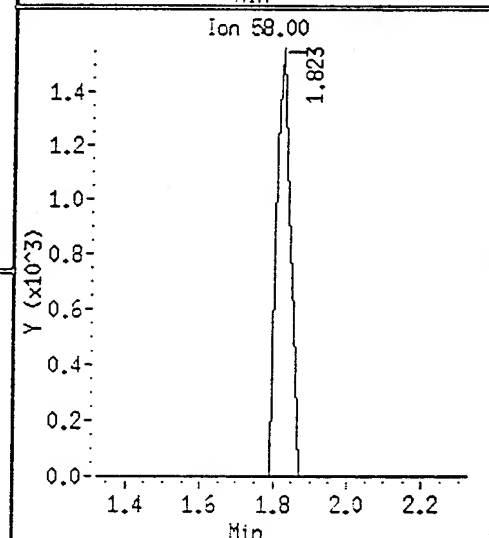
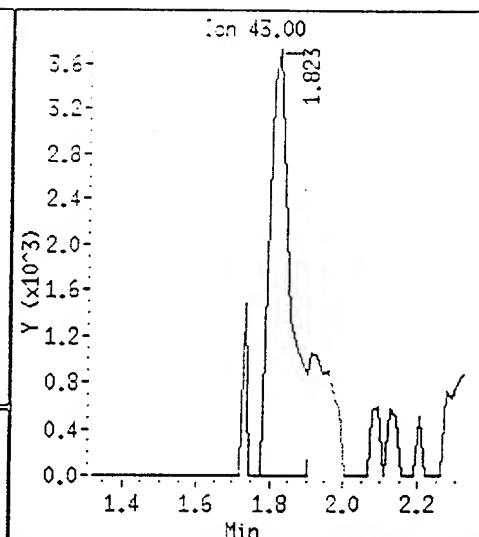
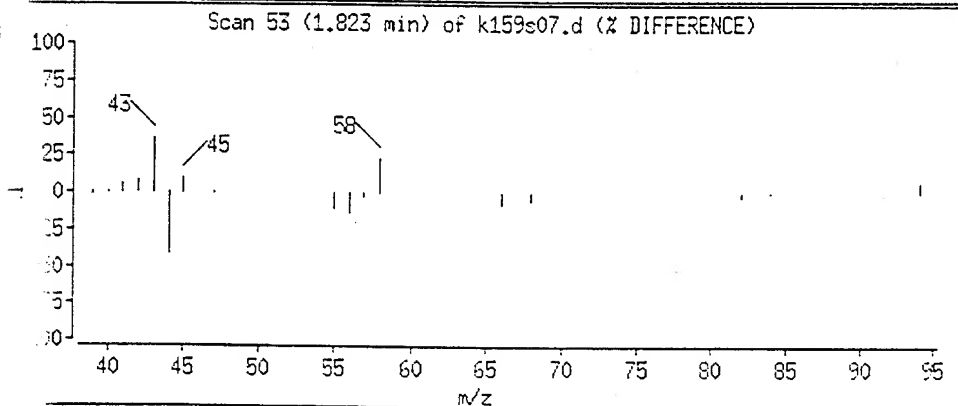
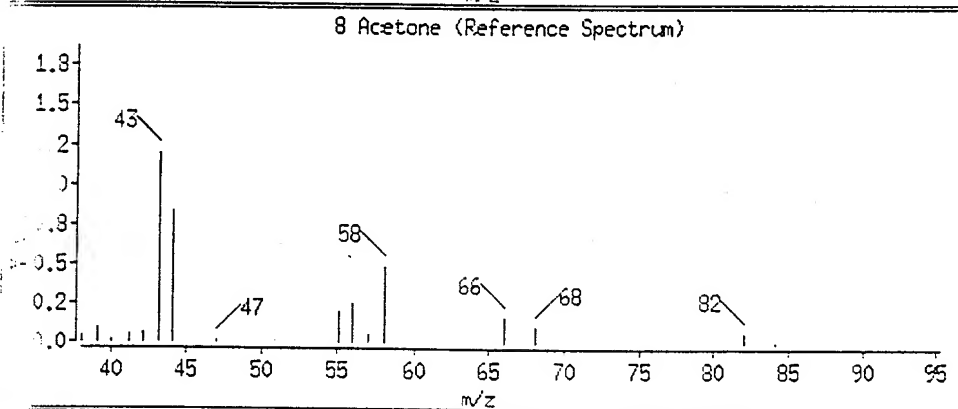
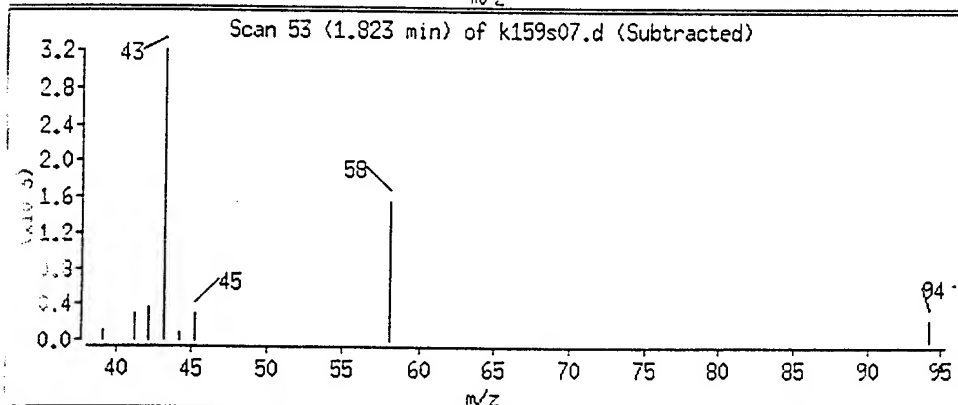
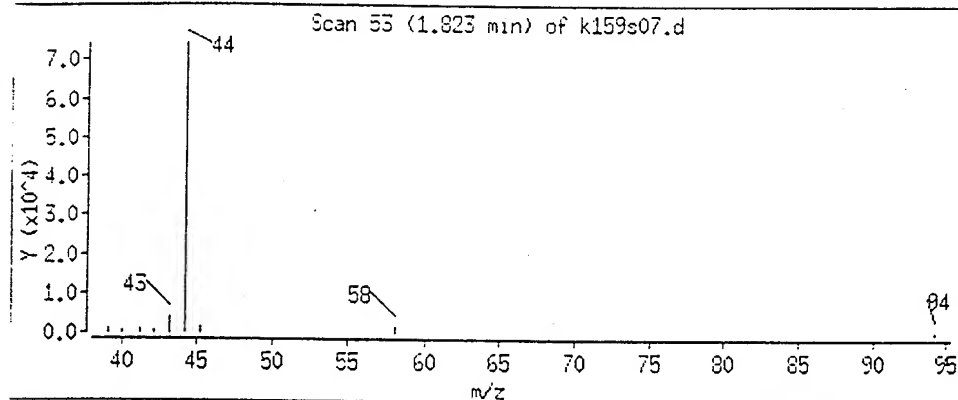
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

8 Acetone





Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 19	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-07

Operational Tech

SAMPLE ID: A-07 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
ANALYZED BY: HLW			
DATE/TIME: 06/08/94 23:34:00			
METHOD: 8240, Volatile Organics - Soil			
NOTES:	* - Practical Quantitation Limit	ND - Not Detected	
	NA - Not Analyzed		
	B = Compound present in Method Blank	D - Surr. diluted out.	

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Data File: /chem/k.i/k060894.b/k159s08.d
Report Date: 09-Jun-1994 11:54

Page 1

SPL Labs

Data file : /chem/k.i/k060894.b/k159s08.d

Lab. Id. :

Inj Date : 08-JUN-1994 23:34

Operator :

Smp Info : 9406119-8240S-07A X1

Misc Info :

Comment :

Method : /chem/k.i/k060894.b/kcips.m

Meth Date : 09-Jun-1994 11:53 hillery

Cal Date : 08-JUN-1994 16:01

Als bottle: 25

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN: (ng)	FINAL (ug/Kg)
*****	----	==	=====	-----	-----	-----
* 1 Bromochloromethane	128.00	2.520	(1.000)	50280	50	(Q) 19
8 Acetone	43.00	1.823	(0.723)	15947	19	19
\$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	136960	49	49
* 19 1,4-Difluorobenzene	114.00	3.338	(1.000)	374344	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	267379	50	
\$ 38 Toluene-d8	98.00	5.247	(0.705)	405080	57	57
\$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	131871	44	44

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	49	98.30	70-121
\$ 38 Toluene-d8	50	57	113.67	84-138
\$ 42 Bromofluorobenzene	50	44	87.97	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s08.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SCIL
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	62390	31195	124780	50280	-19.41
18 1,4-Difluorobenzene	436788	218394	873576	374344	-14.30
33 Chlorobenzene-d5	349737	174868	699474	267379	-23.55

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.04
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 08-JUN-1994 23:34

Instrument : k.:

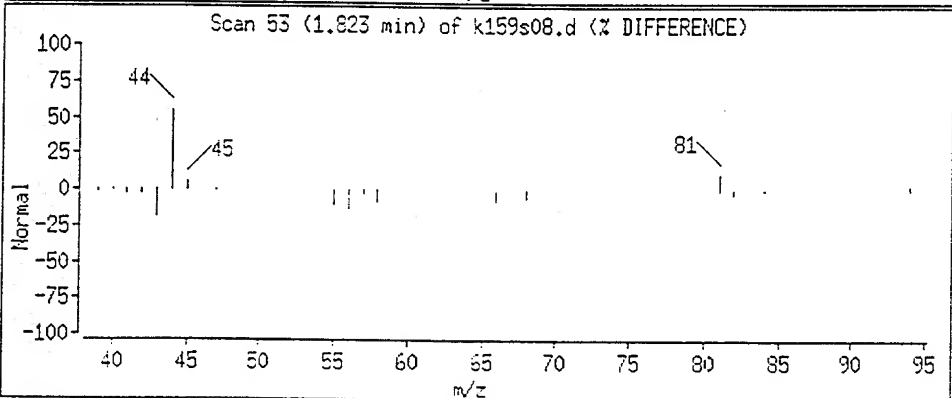
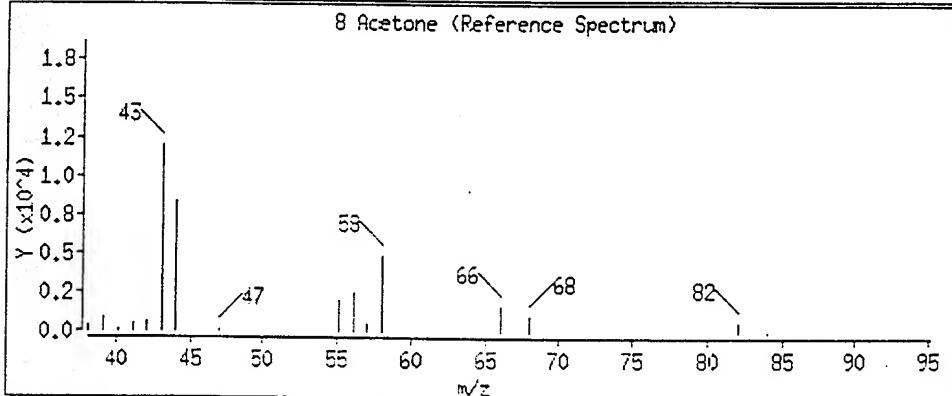
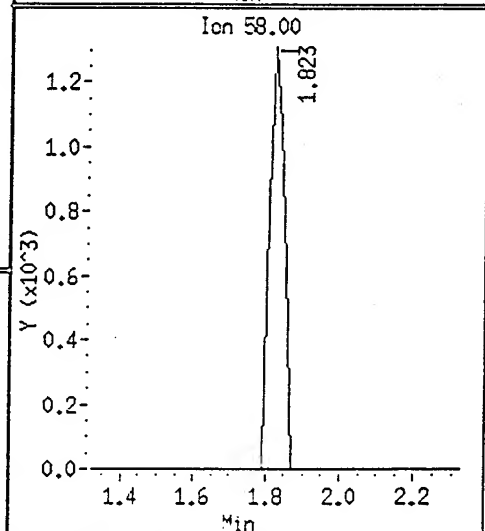
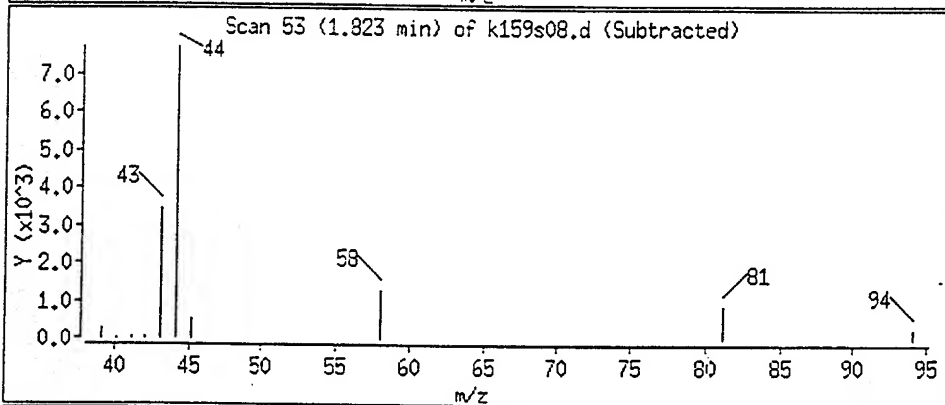
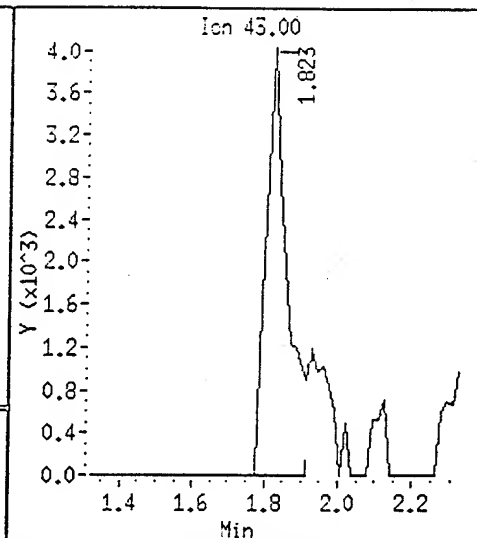
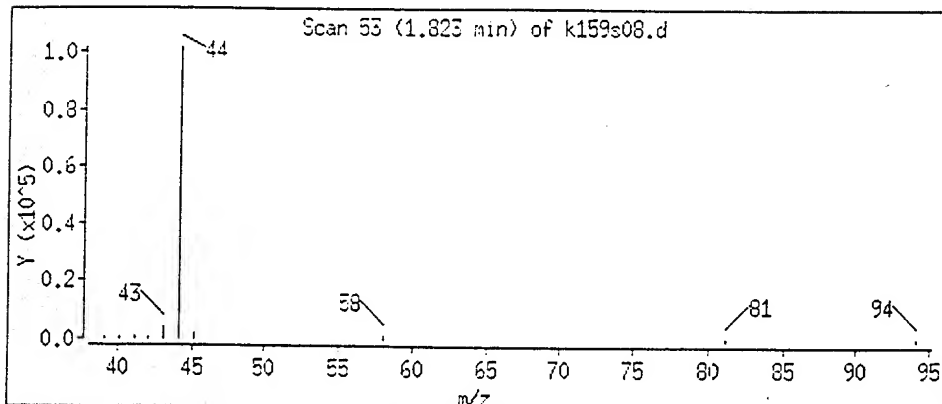
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.1

8 Acetone



Data File: /chem/k.i/k060894.b/k159s08.d

Date : 08-JUN-1994 23:34

Instrument : k.i.i

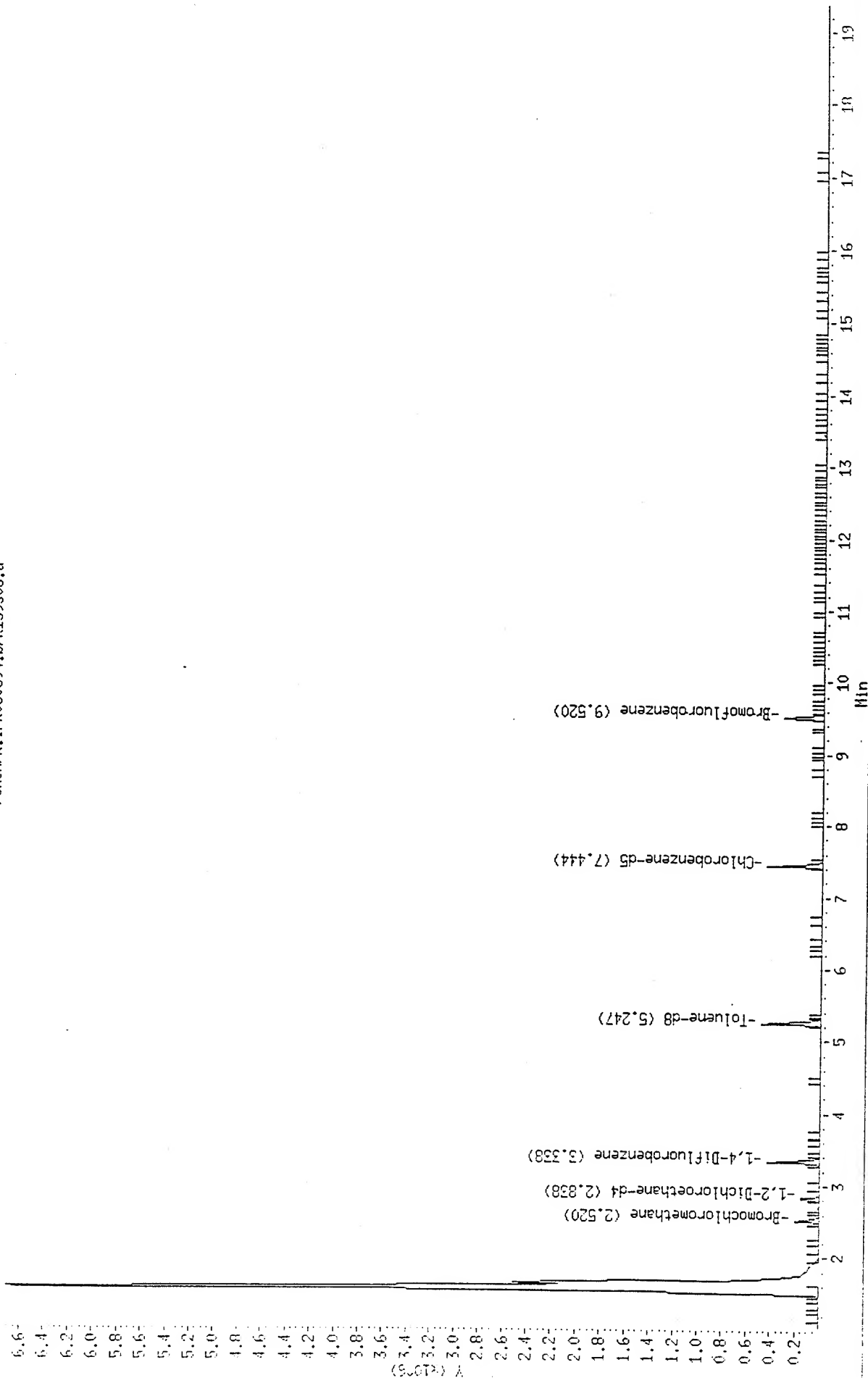
Sample ID :

Column phase :

Volume Injected (ul) : 0.0

Column diameter : 0.25

/chem/k.i/k060894.b/k159s08.d



Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
-----	----	--	-----	-----	-----	-----
31 2-Chloroethylvinylether	63.00	2.203	(0.660)	263046	49	49
32 Bromoform	173.00	8.506	(2.547)	49628	40	40
* 33 Chlorobenzene-d5	117.00	7.445	(1.000)	349737	50	
34 4-Methyl-2-Pentanone	43.00	4.733	(0.636)	157938	48	48
35 2-Hexanone	43.00	6.066	(0.815)	189242	77	77
36 Tetrachloroethene	164.00	6.491	(0.872)	91570	51	51
37 1,1,2,2-Tetrachloroethane	83.00	9.263	(1.244)	92365	38	38
\$ 38 Toluene-d8	98.00	5.248	(0.705)	466127	48	48
39 Toluene	92.00	5.339	(0.717)	280715	49	49
40 Chlorobenzene	112.00	7.491	(1.006)	298104	49	49
41 Ethylbenzene	106.00	7.915	(1.063)	167141	50	50
\$ 42 Bromofluorobenzene	95.00	9.521	(1.279)	196076	46	46
43 Styrene	104.00	8.688	(1.167)	189137	45	45
44 m&p-Xylene	106.00	8.127	(1.092)	391490	49	49
45 o-Xylene	106.00	8.733	(1.173)	188893	50	50

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159cc3.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SCIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
1 Bromochloromethane	62390	31195	124780	62390	0.00
18 1,4-Difluorobenzene	436788	218394	873576	436788	0.00
33 Chlorobenzene-d5	349737	174868	699474	349737	0.00

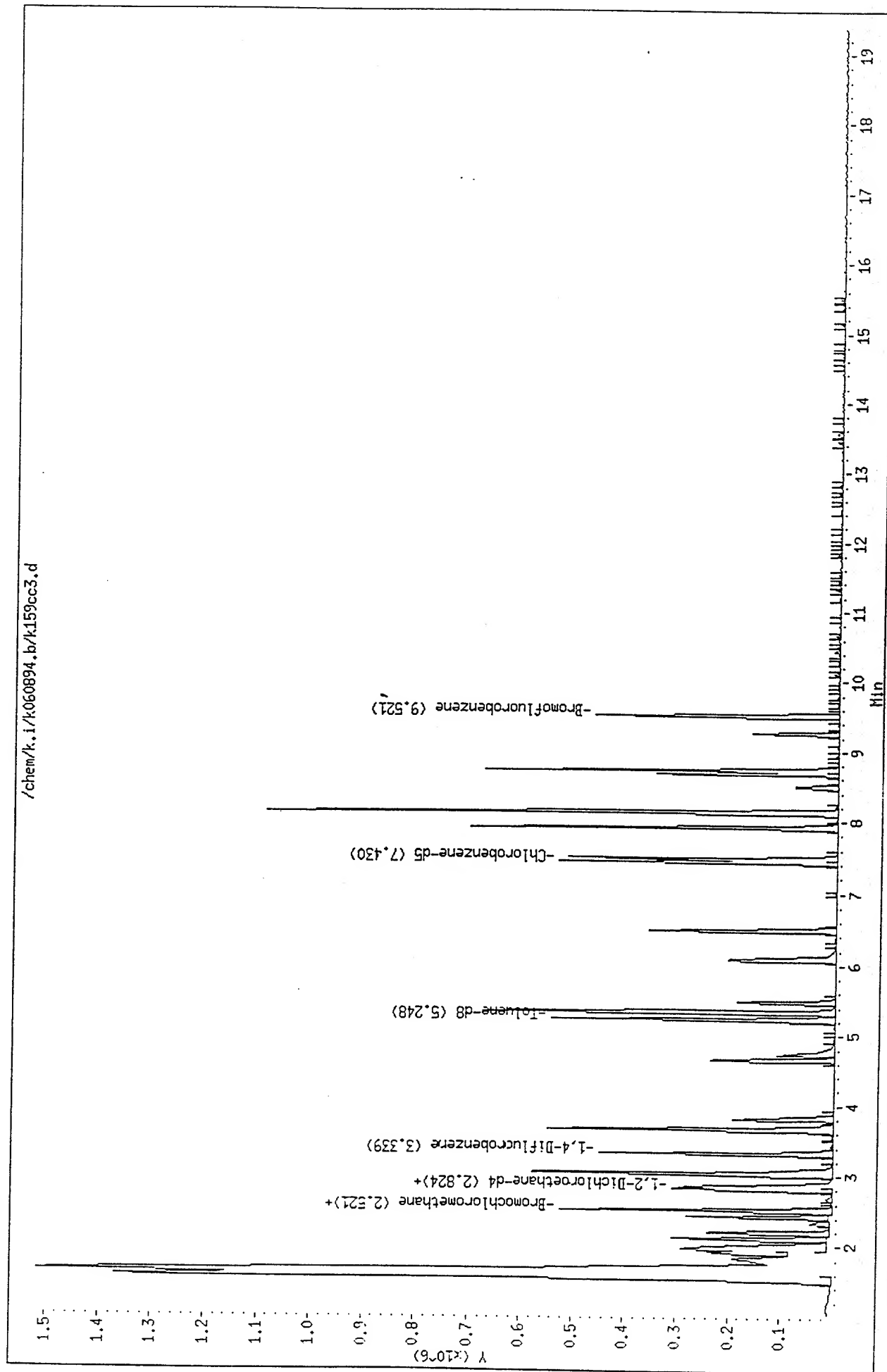
COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.00
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	0.00
33 Chlorobenzene-d5	7.45	6.95	7.95	7.45	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894,b/k159cc3.d
Date : 08-JUN-1994 16:01
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Page 4

Column diameter : 0.25



SPL Labs

Data file : /chem/k.i/k060894.b/k159b02.d
Lab. Id. :
Inj Date : 08-JUN-1994 19:56
Operator :
Smp Info : METHOD BLANK
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kc1ps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 16
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i
Cal File: k159cc3.d
Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	MASS	RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN	FINAL
						(ng)	(ug/Kg)
* 1 Bromochloromethane	128.00	2.534	(1.000)	70363	50		(Q)
8 Acetone	43.00	1.822	(0.719)	27816	24	24	HUBW
\$ 16 1,2-Dichloroethane-d4	65.00	2.837	(1.120)	202877	52	52	
* 18 1,4-Difluorobenzene	114.00	3.353	(1.000)	392626	50		
* 33 Chlorobenzene-d5	117.00	7.459	(1.000)	326424	50		
\$ 38 Toluene-d8	98.00	5.262	(0.705)	429469	49	49	
\$ 42 Bromofluorobenzene	95.00	9.520	(1.276)	188131	51	51	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k060894.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	52	104.05	70-121
\$ 38 Toluene-d8	50	49	98.72	84-138
\$ 42 Bromofluorobenzene	50	51	102.80	59-113

* - Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159b02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	62390	31195	124780	70363	12.78
18 1,4-Difluorobenzene	436788	218394	873576	392626	-10.11
33 Chlorobenzene-d5	349737	174868	699474	326424	-6.67

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.53	0.55
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.35	0.41
33 Chlorobenzene-d5	7.45	6.95	7.95	7.46	0.18

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Date : 08-JUN-1994 19:56

Instrument : k.i

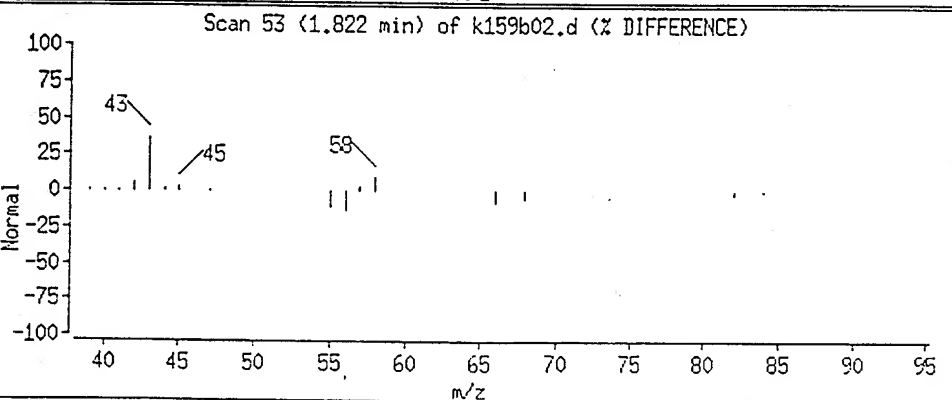
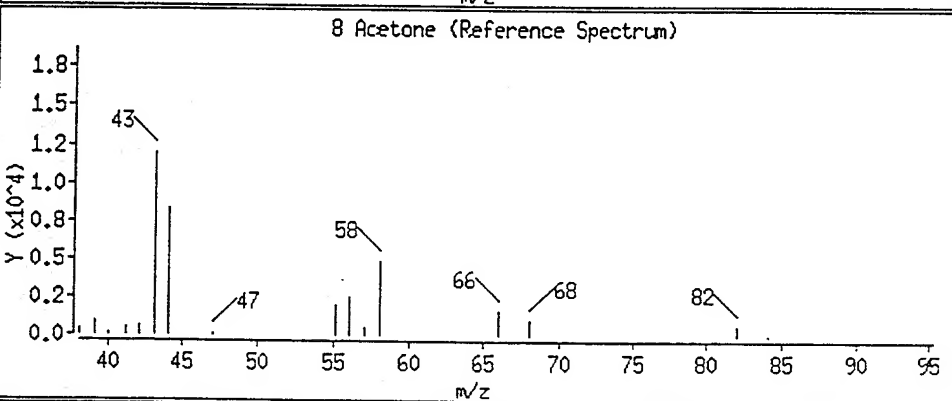
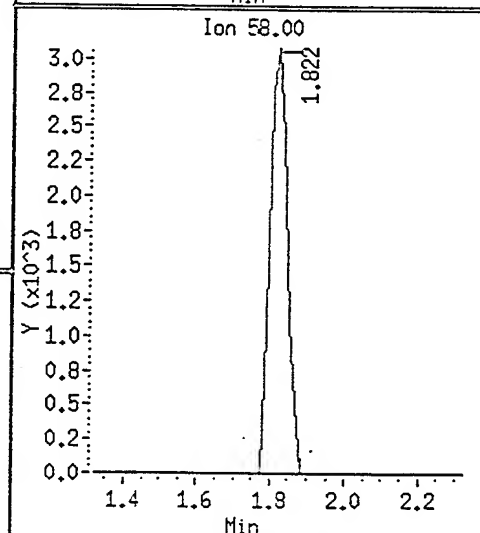
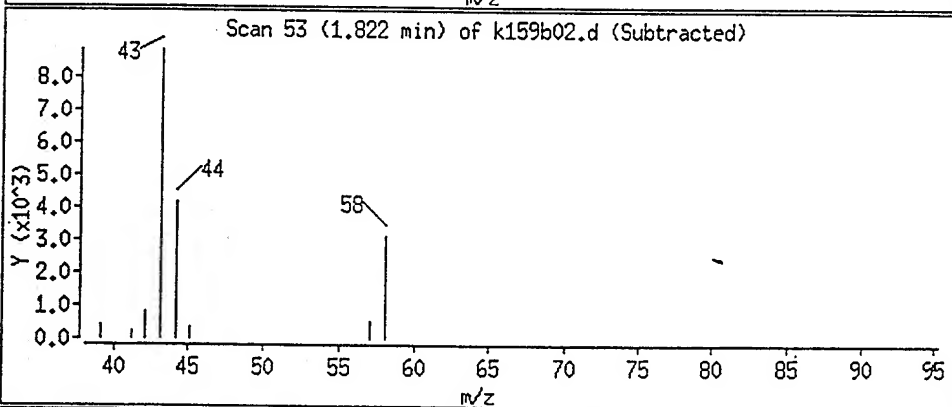
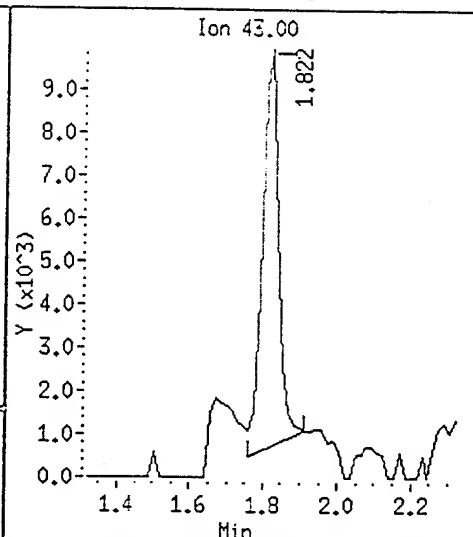
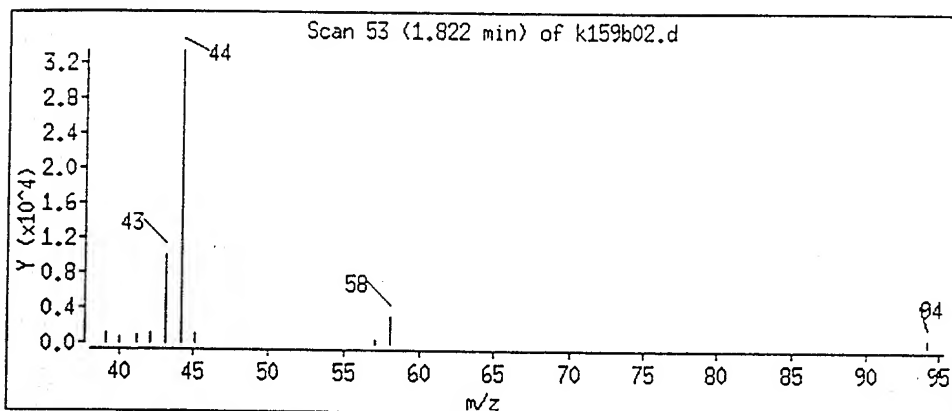
Sample ID :

Column phase :

Column diameter : 0.25

Volume Injected (uL) : 0.0

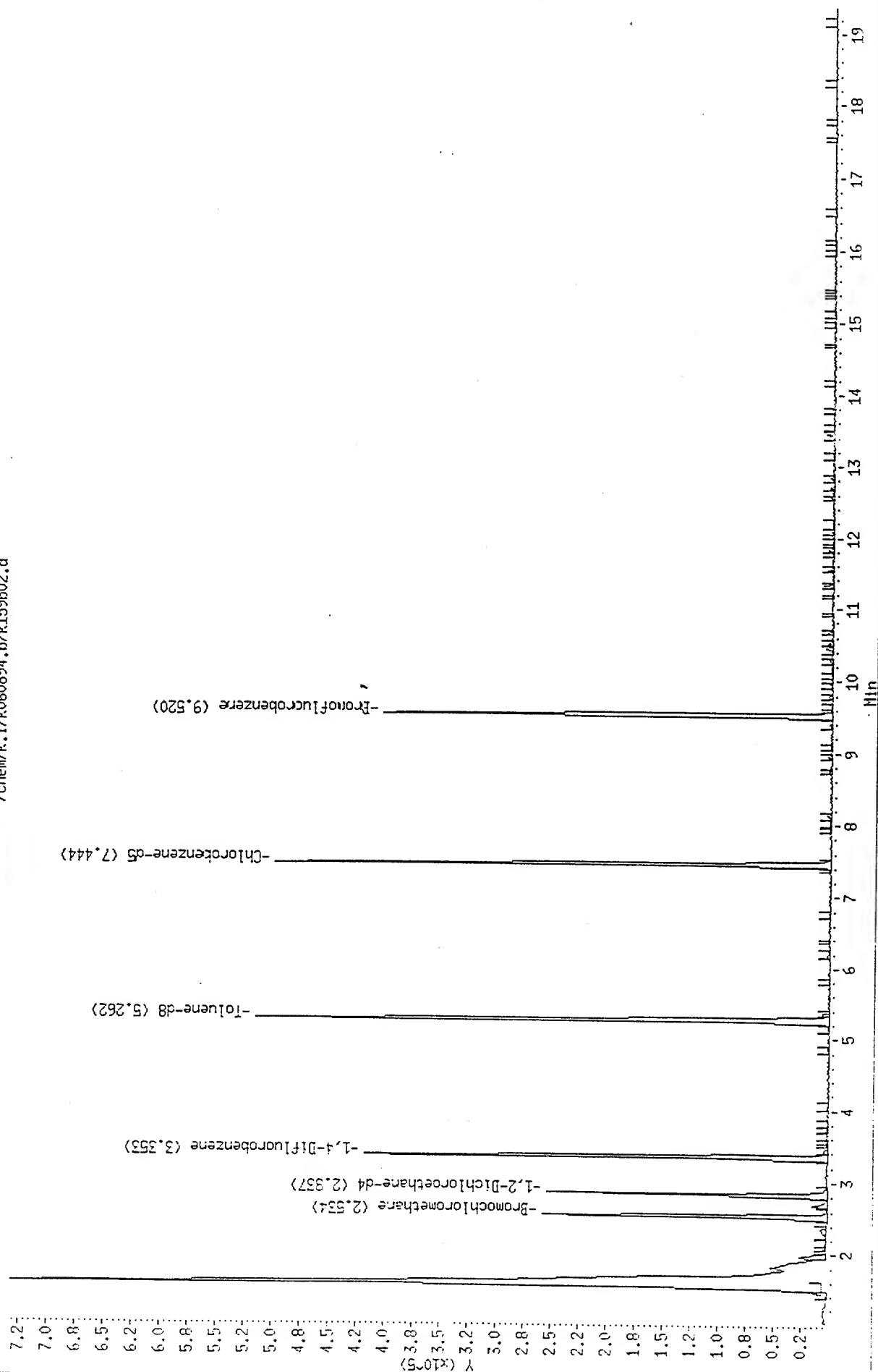
8 Acetone



Data File: /chem/k.i/k060894,b/k159b02.d
Date : 08-JUN-1994 19:56
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25

/chem/k.i/k060894,b/k159b02.d



Data File: /chem/k.i/k061494.b/k165bf1.d

Page 1

Date : 14-JUN-94 09:58

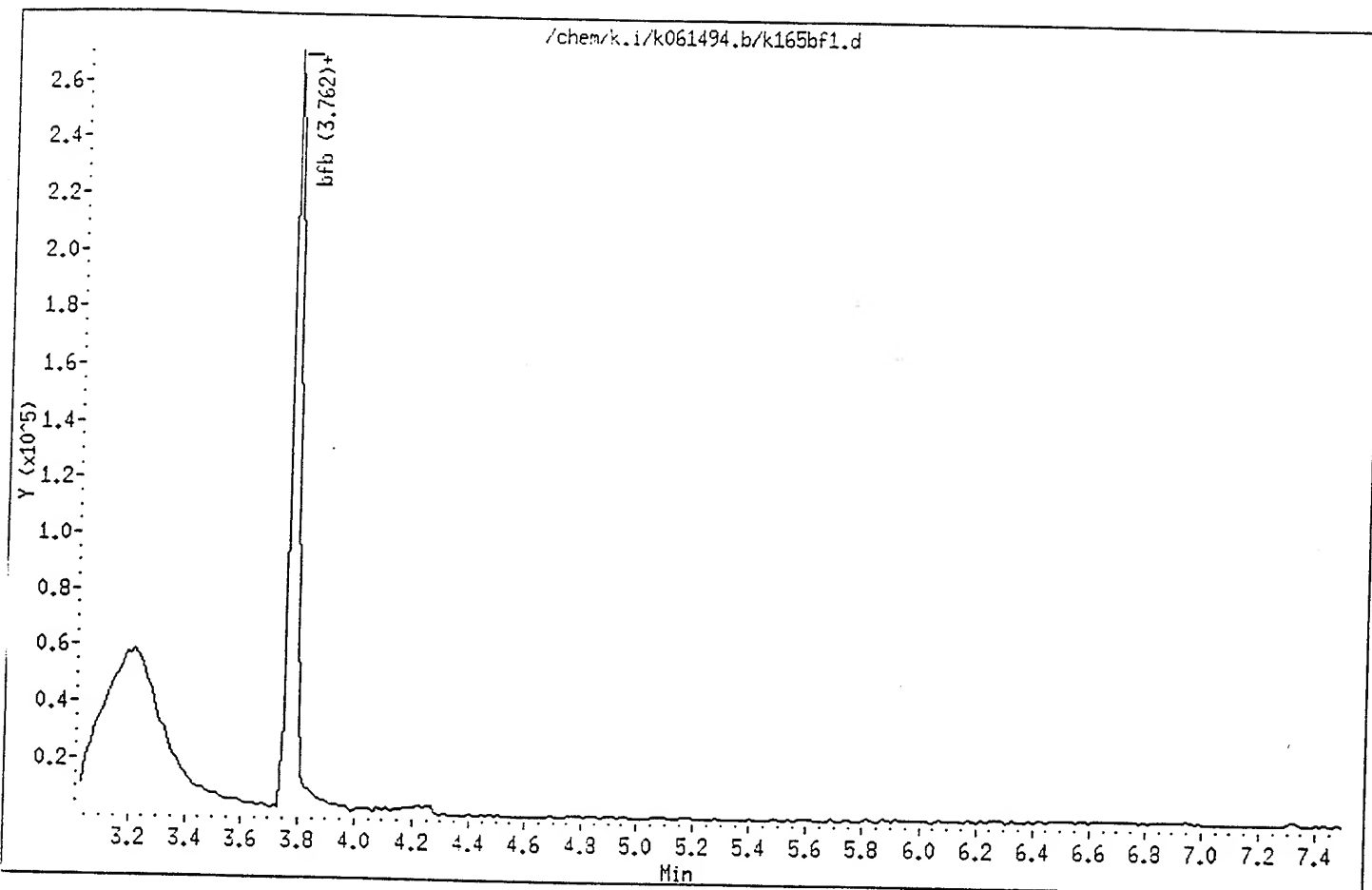
Instrument : k.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0



Date : 14-JUN-94 09:58

Instrument : k.i

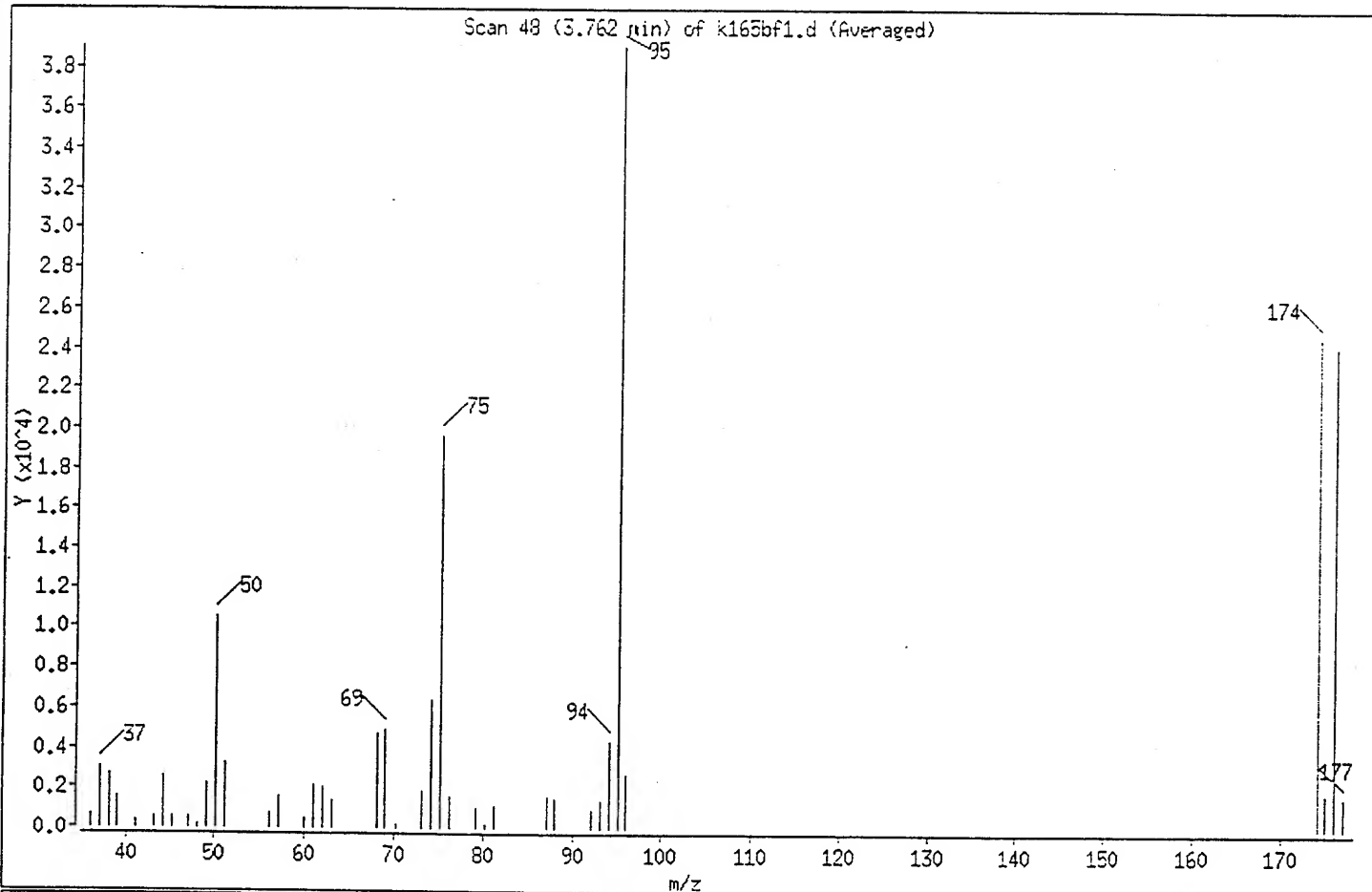
Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.0
50	8.00 - 40.00% of mass 95	26.9
75	30.00 - 66.00% of mass 95	50.3
96	5.00 - 9.00% of mass 95	6.9
173	Less than 2.00% of mass 174	0.0
174	50.00 - 120.00% of mass 95	63.1
175	4.00 - 9.00% of mass 174	7.0
176	93.00 - 101.00% of mass 174	98.1
177	5.00 - 9.00% of mass 176	6.4

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i
Lab File ID: k165cc1.d
Analysis Type: SOIL
Lab Sample ID:
Quant Type: ISTD

Injection Date: 14-JUN-1994 10:26
Init. Calibration Date(s): 05/19/94 05/19/94
Init. Calibration Times: 16:32 23:28
Method File: /chem/k.i/k061494.b/kclps.m

COMPOUND	RRF	RF50	MIN	MAX
			RRF	%D
1 Chloromethane	3.668	2.731	0.010	25.5
2 Bromomethane	2.216	1.814	0.100	18.2
4 Vinyl Chloride	3.332	2.632	0.100	21.0
5 Chloroethane	1.870	2.270	0.010	21.4
6 Trichlorofluoromethane	3.108	2.064	0.010	33.6
7 Methylene Chloride	2.099	1.857	0.010	11.5
8 Acetone	2.520	3.462	0.010	81.7
9 Carbon Disulfide	6.641	6.455	0.010	2.8
10 1,1-Dichloroethene	1.837	1.583	0.100	13.8
11 1,1-Dichloroethane	3.929	3.348	0.200	14.8
12 trans-1,2-Dichloroethene	1.678	1.552	0.010	7.5
13 cis-1,2-Dichloroethene	1.814	1.734	0.010	4.4
M 14 1,2-Dichloroethene (total)	****	****	0.010	****
15 Chloroform	3.729	3.083	0.200	17.3
S 16 1,2-Dichloroethane-d4	2.851	2.812	0.010	1.4
17 1,2-Dichloroethane	3.640	2.910	0.100	20.1
19 2-Butanone	0.458	0.232	0.010	49.4
20 1,1,1-Trichloroethane	0.491	0.402	0.100	18.0
21 Carbon Tetrachloride	0.434	0.335	0.100	22.8
22 Vinyl Acetate	1.309	1.116	0.010	14.7
23 Bromodichloromethane	0.435	0.391	0.200	10.1
24 1,2-Dichloropropane	0.355	0.338	0.010	4.8
25 cis-1,3-Dichloropropene	0.489	0.433	0.200	11.3
26 Trichloroethene	0.270	0.257	0.300	4.7
27 Benzene	1.164	1.092	0.500	6.1
28 Dibromochloromethane	0.273	0.262	0.100	3.9
29 trans-1,3-Dichloropropene	0.504	0.464	0.100	7.9
30 1,1,2-Trichloroethane	0.214	0.213	0.100	0.5
31 2-Chloroethylvinylether	0.642	0.556	0.010	13.4
32 Bromoform	0.166	0.163	0.100	1.9
34 4-Methyl-2-Pentanone	0.751	0.547	0.010	27.2
35 2-Hexanone	0.772	0.417	0.010	46.0
36 Tetrachloroethene	0.251	0.239	0.200	4.9
37 1,1,2,2-Tetrachloroethane	0.373	0.369	0.500	1.1
S 38 Toluene-d8	1.139	1.311	0.010	15.1
39 Toluene	0.872	0.762	0.400	12.7
40 Chlorobenzene	0.864	0.829	0.500	4.0
41 Ethylbenzene	0.474	0.440	0.100	7.3
S 42 Bromofluorobenzene	0.520	0.572	0.200	10.1
43 Styrene	0.934	0.930	0.300	0.4

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i Injection Date: 14-JUN-1994 10:26
Lab File ID: k165cc1.d Init. Calibration Date(s): 05/19/94 05/19/94
Analysis Type: SOIL Init. Calibration Times: 16:32 23:28
Lab Sample ID: Method File: /chem/k.i/k061494.b/kclps.m
Quant Type: ISTD

COMPOUND	RRF		MIN		MAX	
	RRF	RFSD	RRF	%D	%D	
44 m&p-Xylene	0.604	0.543	0.300	10.1	25.0	
45 o-Xylene	0.569	0.529	0.300	7.0	25.0	
M 46 Xylenes (total)	****	----	0.300	****	25.0	

SPL Labs

Data file : /chem/k.i/k061494.b/k165cc1.d

Lab. Id. :

Inj Date : 14-JUN-1994 10:26

Operator :

Smp Info : 50 STD

Misc Info :

Comment :

Method : /chem/k.i/k061494.b/kclps.m

Meth Date : 14-Jun-1994 17:20 hillery

Cal Date : 14-JUN-1994 10:26

Als bottle: 3

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: k.i

Cal File: k165cc1.d

Continuing Calibration Sample

Target Version: Target 3.00

Compound Sublist: all.sub

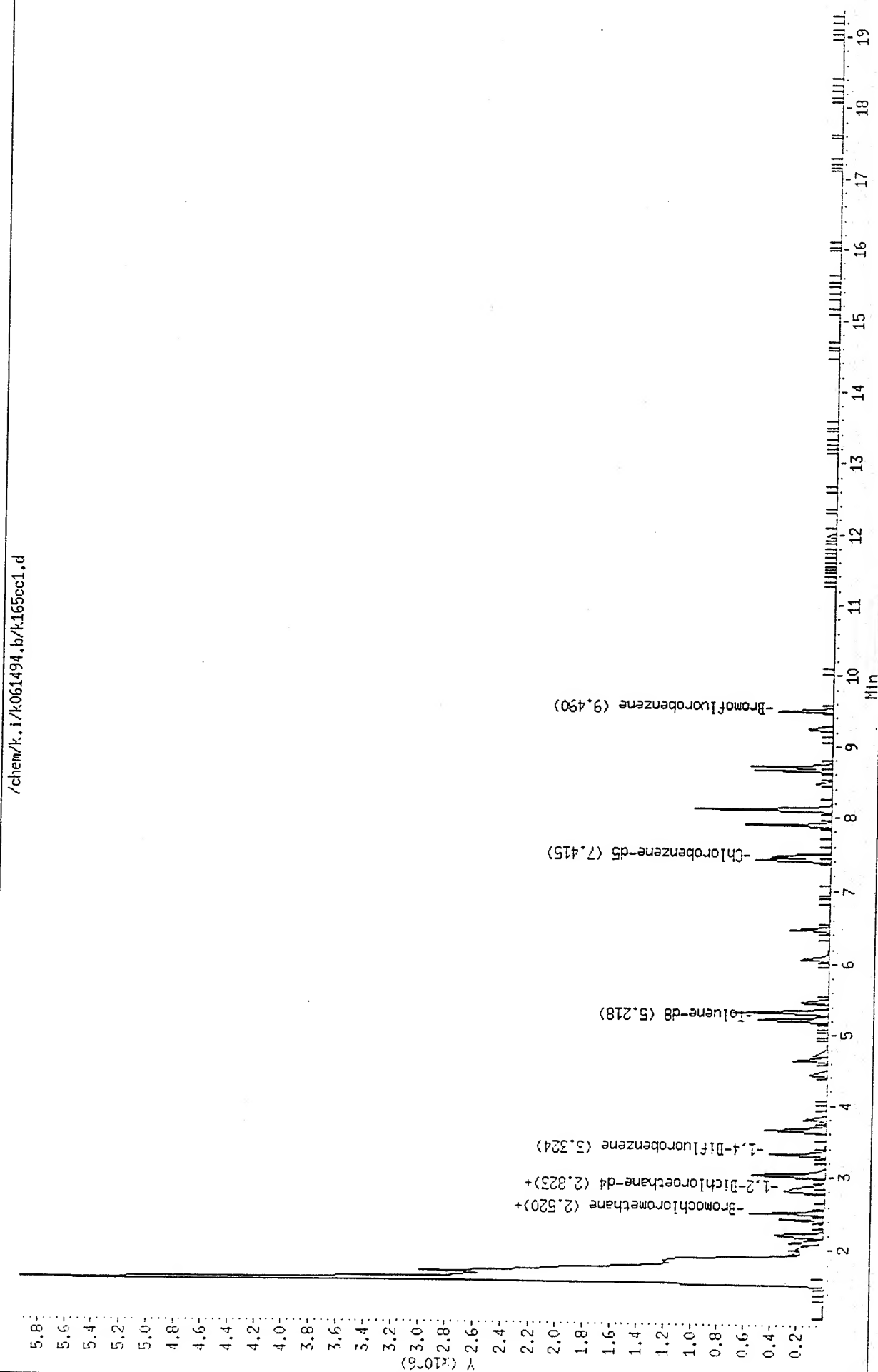
Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)
						FINAL (ug/Kg)
1 Bromochloromethane	128.00	2.520 (1.000)	65375	50		
2 Chloromethane	50.00	1.657 (0.657)	178522	37	37	
3 Bromomethane	94.00	1.733 (0.687)	118561	41	41	
4 Vinyl Chloride	62.00	1.587 (0.669)	172074	40	40	
5 Chloroethane	64.00	1.717 (0.681)	148428	61	61	
6 Trichlorofluoromethane	101.00	1.839 (0.729)	134959	33	33	
7 Methylene Chloride	84.00	1.975 (0.784)	121415	44	44	
8 Acetone	43.00	1.808 (0.717)	30197	9	9	
9 Carbon Disulfide	76.00	2.051 (0.814)	422005	48	48	
10 1,1-Dichloroethene	96.00	1.929 (0.766)	103516	43	43	
11 1,1-Dichloroethane	63.00	2.202 (0.874)	218843	42	42	
12 trans-1,2-Dichloroethene	96.00	2.126 (0.844)	101444	46	46	
13 cis-1,2-Dichloroethene	96.00	2.430 (0.964)	113368	48	48	
15 Chloroform	83.00	2.520 (1.000)	201535	41	41	
16 1,2-Dichloroethane-d4	65.00	2.823 (1.120)	183865	49	49	
17 1,2-Dichloroethane	62.00	2.869 (1.138)	190257	40	40	
18 1,4-Difluorobenzene	114.00	3.324 (1.000)	393488	50		
19 2-Butanone	43.00	2.339 (0.704)	91199	25	25	
20 1,1,1-Trichloroethane	97.00	2.339 (0.854)	158288	41	41	
21 Carbon Tetrachloride	117.00	3.051 (0.918)	131848	39	39	
22 Vinyl Acetate	43.00	2.217 (0.667)	439086	43	43	
23 Bromodichloromethane	83.00	3.308 (1.146)	153705	45	45	
24 1,2-Dichloropropane	63.00	3.657 (1.100)	133038	48	48	
25 cis-1,3-Dichloropropene	75.00	5.324 (1.602)	170531	44	44	
26 Trichloroethene	130.00	3.572 (1.105)	101091	48	48	
27 Benzene	78.00	3.336 (0.913)	429770	47	47	
28 Dibromochloromethane	129.00	6.031 (1.830)	103267	48	48	
29 trans-1,3-Dichloropropene	75.00	4.642 (1.397)	182598	46	46	
30 1,1,2-Trichloroethane	97.00	5.475 (1.647)	83825	50	50	

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	REL RT	RESPONSE		IN-COLUMN	FINAL
						ng	(ug/Kg)
-----	----	--	-----	-----		-----	-----
31 2-Chloroethylvinylether	63.00	2.202	(0.663)	218843		43	43
32 Bromoform	173.00	3.475	(0.550)	63960		49	49
* 33 Chlorobenzene-d5	117.00	7.415	(1.000)	337452		50	
34 4-Methyl-2-Pentanone	43.00	4.717	(0.636)	184551		36	36
35 2-Hexanone	43.00	6.051	(0.816)	140740		27	27
36 Tetrachloroethene	164.00	6.475	(0.873)	30568		48	48
37 1,1,2,2-Tetrachloroethane	83.00	9.248	(1.247)	124638		49	49
\$ 38 Toluene-d8	98.00	5.218	(0.704)	442263		58	58
39 Toluene	92.00	5.324	(0.718)	257006		44	44
40 Chlorobenzene	112.00	7.475	(1.008)	279844		48	48
41 Ethylbenzene	106.00	7.899	(1.063)	148313		46	46
\$ 42 Bromofluorobenzene	95.00	9.490	(1.280)	193120		55	55
43 Styrene	104.00	8.657	(1.168)	313894		50	50
44 m&p-Xylene	106.00	8.112	(1.094)	366349		90	90
45 o-Xylene	106.00	8.718	(1.176)	178565		46	46

Data File: /chem/k.i/k061494.b/k165cc1.d
Date : 14-Jul-94 10:26
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Page 3

Column diameter : 0.25



SPL Labs

Data file : /chem/k.i/k061494.b/k165b02.d
Lab. Id. : Quant Type: ISTD
Inj Date : 14-JUN-1994 12:11 Autotune Date:
Operator : Inst ID: k.i
Smp Info : METHOD BLANK
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclips.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26 Cal File: k165cc1.d
Als bottle: 6
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIC MASS	RT	REL RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN (ng)	FINAL (ug/Kg)
*****	****	==	*****	*****	*****	*****
* 1 Bromochloromethane	128.00	2.520	(1.000)	74285	50	(Q)
S 16 1,2-Dichloroethane-d4	65.00	2.923	(1.120)	207078	50	50
* 18 1,4-Difluorobenzene	114.00	3.324	(1.000)	421757	50	
* 33 Chlorobenzene-d5	117.00	7.415	(1.000)	356804	50	
S 38 Toluene-d8	98.00	8.218	(0.704)	465567	50	50
S 42 Bromofluorobenzene	95.00	9.506	(1.282)	207189	51	51

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 16 1,2-Dichloroethane	50	50	99.12	70-121
\$ 38 Toluene-d8	50	50	99.56	84-138
\$ 42 Bromofluorobenzene	50	51	101.47	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: k.i
 Lab File ID: k165b02.d
 Lab Sample ID:
 Analysis Type: VOA
 Quant Type: ISTD
 Method File: /chem/k.i/k061494.b/kolps.m
 Misc Info:

Calibration Date: 06/14/94
 Calibration Time: 1026
 Sample Type: SOIL
 Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	65375	32687	130750	74285	13.63
18 1,4-Difluorobenzene	393483	196744	786976	421757	7.18
33 Chlorobenzene-d5	337452	168726	674904	356804	5.73

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.00
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.00
33 Chlorobenzene-d5	7.41	6.91	7.91	7.41	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165b02.d

Date : 14-JUN-1994 12:11

Instrument : k.i

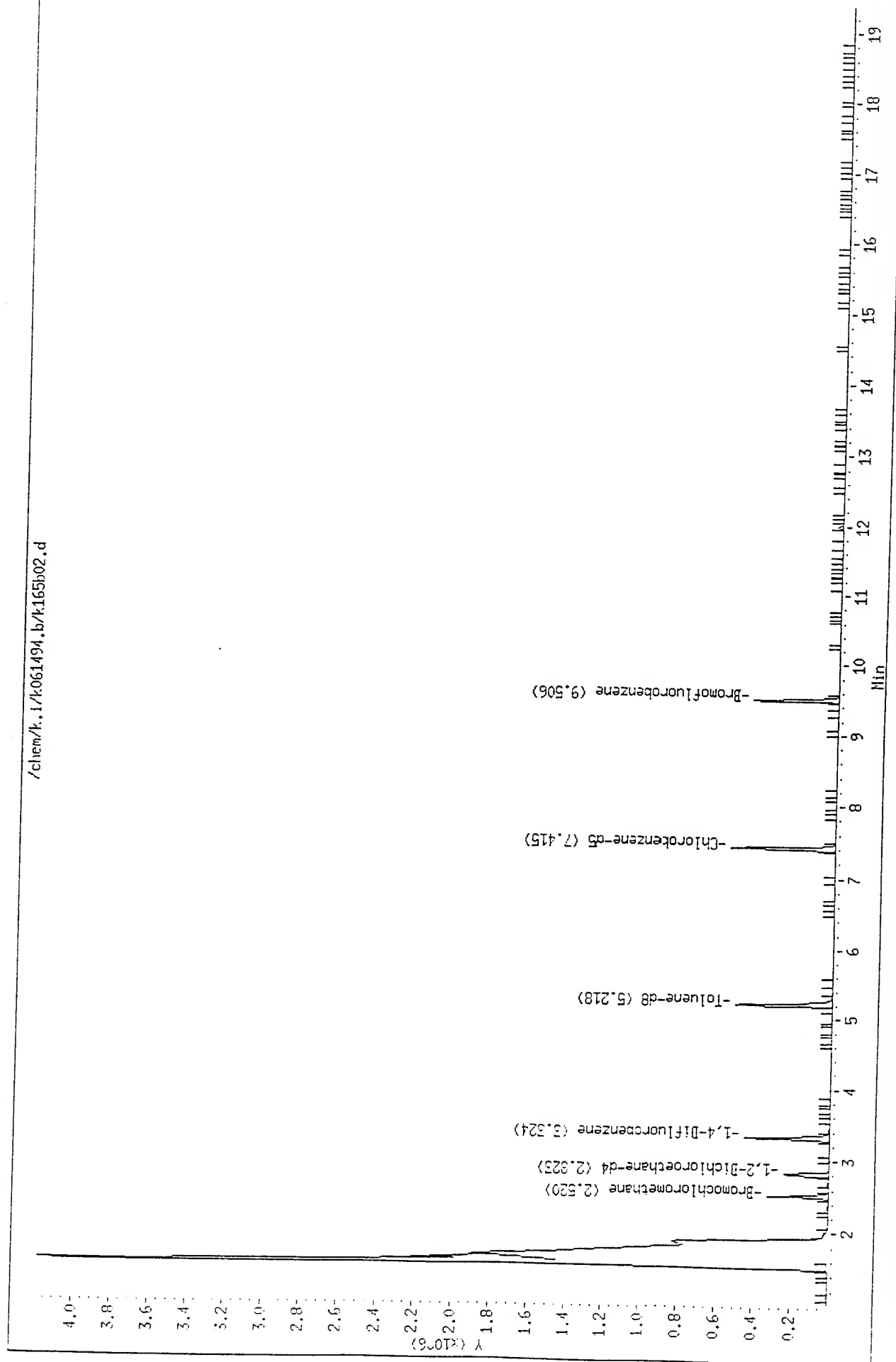
Sample ID :

Column phase :

Volume Injected (ul) : 0.0

Column diameter : 0.25

/chem/k.i/k061494.b/k165b02.d





Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	PQL*	UNITS	
Acenaphthene	ND	330	µg/Kg	
Acenaphthylene	ND	330	µg/Kg	
Aniline	ND	330	µg/Kg	
Anthracene	ND	330	µg/Kg	
Benzo(a)Anthracene	ND	330	µg/Kg	
Benzo(b)Fluoranthene	ND	330	µg/Kg	
Benzo(k)Fluoranthene	ND	330	µg/Kg	
Benzo(a)Pyrene	ND	330	µg/Kg	
Benzoic Acid	ND	1600	µg/Kg	
Benzo(g,h,i)Perylene	ND	330	µg/Kg	
Benzyl alcohol	ND	330	µg/Kg	
4-Bromophenylphenyl ether	ND	330	µg/Kg	
Butylbenzylphthalate	ND	330	µg/Kg	
di-n-Butyl phthalate	ND	330	µg/Kg	
Carbazole	ND	330	µg/Kg	
4-Chloroaniline	ND	330	µg/Kg	
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg	
bis(2-Chloroethyl) Ether	ND	330	µg/Kg	
bis(2-Chloroisopropyl) Ether	ND	330	µg/Kg	
4-Chloro-3-Methylphenol	ND	330	µg/Kg	
2-Chloronaphthalene	ND	330	µg/Kg	
2-Chlorophenol	ND	330	µg/Kg	
4-Chlorophenylphenyl ether	ND	330	µg/Kg	
Chrysene	ND	330	µg/Kg	
Dibenz(a,h)Anthracene	ND	330	µg/Kg	
Dibenzofuran	ND	330	µg/Kg	
1,2-Dichlorobenzene	ND	330	µg/Kg	
1,3-Dichlorobenzene	ND	330	µg/Kg	
1,4-Dichlorobenzene	ND	330	µg/Kg	
3,3'-Dichlorobenzidine	ND	330	µg/Kg	
2,4-Dichlorophenol	ND	330	µg/Kg	
Diethylphthalate	ND	330	µg/Kg	
2,4-Dimethylphenol	ND	330	µg/Kg	
Dimethyl Phthalate	ND	330	µg/Kg	
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg	
2,4-Dinitrophenol	ND	800	µg/Kg	
2,4-Dinitrotoluene	ND	330	µg/Kg	
2,6-Dinitrotoluene	ND	330	µg/Kg	

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-11

Operational Tech

SAMPLE ID: A-01 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 17:10:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s08.d
Lab. Id. : Quant Type: ISTD
Inj Date : 17-JUN-1994 17:10 Autotune Date: {
Operator : LH Inst ID: j.i
Smp Info : 9406119-11B
Misc Info : 9406119-11B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 22-Jun-1994 13:38 liping
Cal Date : 17-JUN-1994 09:39 Cal File: j168cc1.d
Als bottle: 15
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/Kg)
=====	=====	==	=====	=====	=====	=====
\$ 3 2-Fluorophenol	112.00	3.689	(0.770)	614941	140	2300
\$ 5 Phenol-d5	99.00	4.486	(0.936)	734765	130	2100
\$ 8 2-Chlorophenol-d4	132.00	4.617	(0.963)	646641	130	2100
* 11 1,4-Dichlorobenzene-d4	152.00	4.781	(1.000)	120315	40	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.978	(0.614)	290945	97	1600
\$ 23 Nitrobenzene-d5	82.00	5.361	(0.875)	493066	100	1800
* 32 Naphthalene-d8	136.00	6.115	(1.000)	382259	40	
\$ 40 2-Fluorobiphenyl	172.00	7.330	(0.904)	803734	110	1800
* 48 Acenaphthene-d10	164.00	8.098	(1.000)	224485	40	
\$ 61 2,4,6-Tribromophenol	329.70	9.021	(0.920)	141485	150	2400
* 65 Phenanthrene-d10	188.00	9.770	(1.000)	296683	40	
\$ 72 Terphenyl-d14	244.00	11.636	(0.879)	469898	90	1500
* 76 Chrysene-d12	240.00	13.232	(1.000)	153243	40	
* 83 Perylene-d12	264.00	16.205	(1.000)	137014	40	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s08.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-11B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	120315	-0.74
32 Naphthalene-d8	445390	222695	890780	382259	-14.17
48 Acenaphthene-d10	275750	137875	551500	224485	-18.59
65 Phenanthrene-d10	336972	168486	673944	296683	-11.96
76 Chrysene-d12	146532	73266	293064	153243	4.58
83 Perylene-d12	160474	80237	320948	187014	16.54

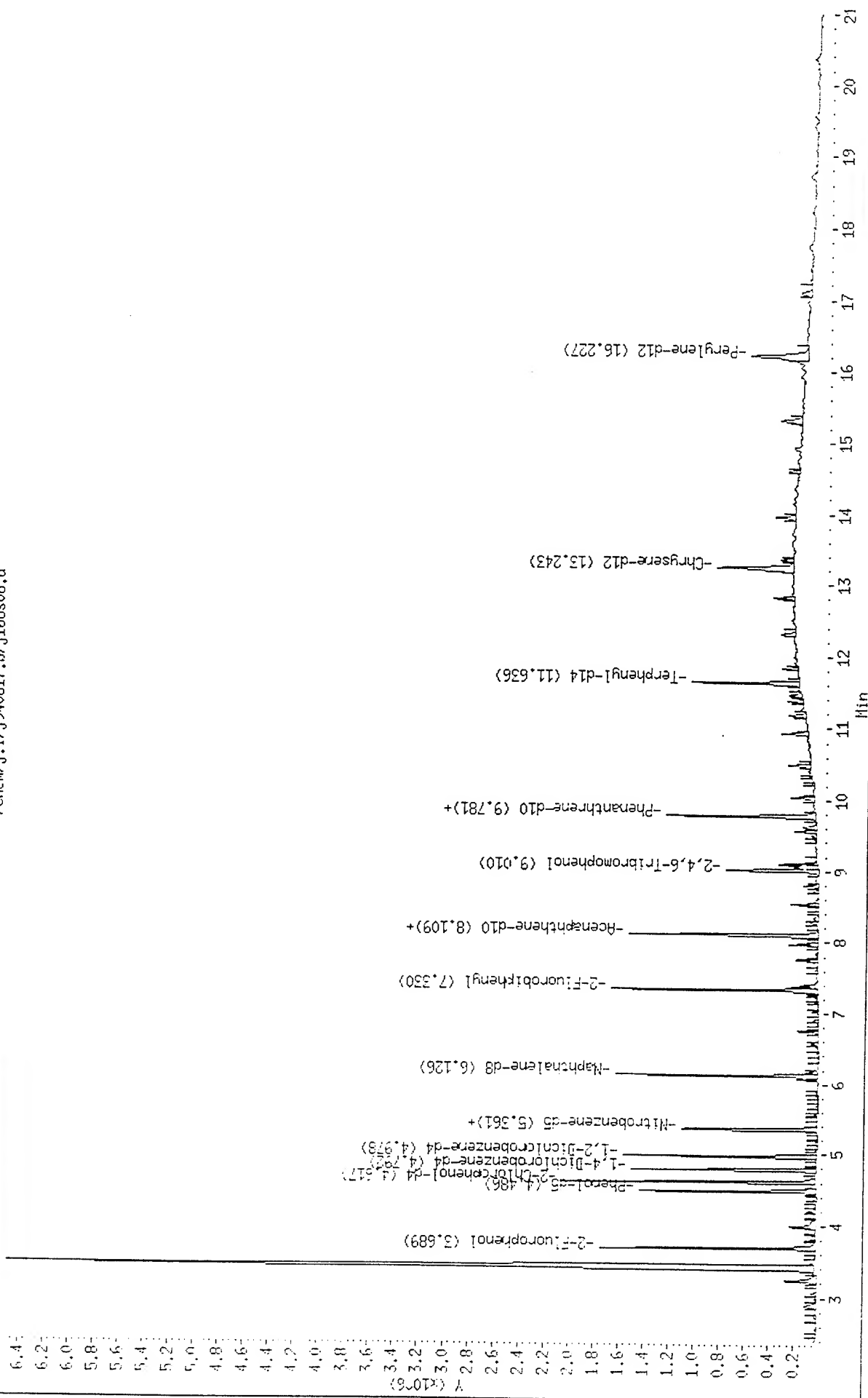
COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.41
32 Naphthalene-d8	6.13	5.63	6.63	6.11	-0.32
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.33
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.20
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.18
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s08.d
 Date : 17-MAY-1994 17:10
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25

/chem/j.i./j940617.b/j168s08.d





Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl) Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl) Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-12

Operational Tech

SAMPLE ID: A-01 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 16:43:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s07.d
Lab. Id. : Quant Type: ISTD
Inj Date : 17-JUN-94 16:43 Autotune Date: {
Operator : LH Inst ID: j.i
Smp Info : 9406119-12B
Misc Info : 9406119-12B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39 Cal File: j163cc1.d
Als bottle: 14
Dil Factor: 1.000 Target Version: Target 3.00
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng) (ug/Kg)
=====	=====	==	=====	=====	=====	=====
\$ 3 2-Fluorophenol	112.00	3.686	(0.770)	517396	100	1700
\$ 5 Phenol-d5	99.00	4.483	(0.936)	610937	95	1600
\$ 8 2-Chlorophenol-d4	132.00	4.614	(0.963)	568876	97	1600
* 11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	138384	40	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.985	(0.615)	249648	63	1000
21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64731	17	290 (aQ)
\$ 23 Nitrobenzene-d5	82.00	5.367	(0.877)	414755	66	1100
* 32 Naphthalene-d8	136.00	6.119	(1.000)	508080	40	
40 2-Fluorobiphenyl	172.00	7.328	(0.904)	701786	73	1200
43 Acenaphthene-d10	164.00	8.102	(1.000)	297323	40	
- 61 2,4,6-Tribromophenol	330.00	9.018	(0.923)	108343	83	1400 (Q)
* 65 Phenanthrene-d10	188.00	9.772	(1.000)	401643	40	
\$ 72 Terphenyl-d14	244.00	11.634	(0.879)	592825	71	1200
* 76 Chrysene-d12	240.00	13.236	(1.000)	244505	40	
* 83 Perylene-d12	264.00	16.199	(1.000)	245189	40	

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s07.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclips.m
 Misc Info: 9406119-123

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	138384	14.17
32 Naphthalene-d8	445390	222695	890780	508080	14.08
48 Acenaphthene-d10	275750	137875	551500	297323	7.82
65 Phenanthrene-d10	336972	168486	673944	401643	19.19
76 Chrysene-d12	146532	73266	293064	244505	66.86
83 Perylene-d12	160474	80237	320948	245189	52.79

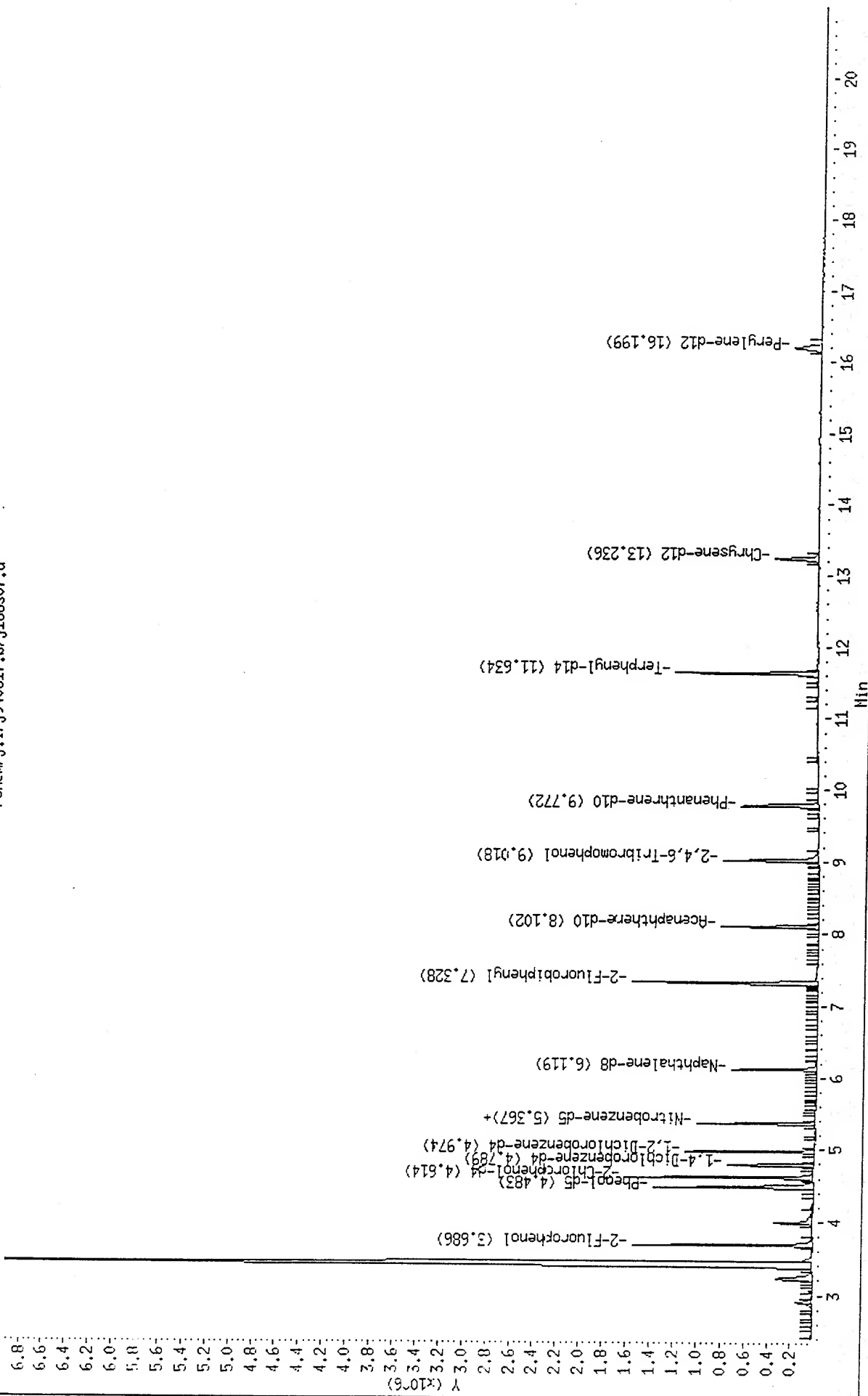
COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.27
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.17
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.15
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s07.d
 Date : 17-JUN-1994 16:43
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25

/chem/j.i./j940617.b/j168s07.d



1930 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 84

[illegible]

[illegible]

TO: SAC, NEW YORK (100-101101) FROM: SAC, NEW YORK (100-101101) (P)

RE: NEW YORK (100-101101) (P)

Weight: 0.000

Net: 0.000

DATE: 10/10/70

- 100-101101-101
- 100-101101-102
- 100-101101-103
- 100-101101-104
- 100-101101-105
- 100-101101-106
- 100-101101-107
- 100-101101-108
- 100-101101-109
- 100-101101-110
- 100-101101-111
- 100-101101-112
- 100-101101-113
- 100-101101-114
- 100-101101-115
- 100-101101-116
- 100-101101-117
- 100-101101-118
- 100-101101-119
- 100-101101-120
- 100-101101-121
- 100-101101-122
- 100-101101-123
- 100-101101-124
- 100-101101-125
- 100-101101-126
- 100-101101-127
- 100-101101-128
- 100-101101-129
- 100-101101-130
- 100-101101-131
- 100-101101-132
- 100-101101-133
- 100-101101-134
- 100-101101-135
- 100-101101-136
- 100-101101-137
- 100-101101-138
- 100-101101-139
- 100-101101-140
- 100-101101-141
- 100-101101-142
- 100-101101-143
- 100-101101-144
- 100-101101-145
- 100-101101-146
- 100-101101-147
- 100-101101-148
- 100-101101-149
- 100-101101-150
- 100-101101-151
- 100-101101-152
- 100-101101-153
- 100-101101-154
- 100-101101-155
- 100-101101-156
- 100-101101-157
- 100-101101-158
- 100-101101-159
- 100-101101-160
- 100-101101-161
- 100-101101-162
- 100-101101-163
- 100-101101-164
- 100-101101-165
- 100-101101-166
- 100-101101-167
- 100-101101-168
- 100-101101-169
- 100-101101-170
- 100-101101-171
- 100-101101-172
- 100-101101-173
- 100-101101-174
- 100-101101-175
- 100-101101-176
- 100-101101-177
- 100-101101-178
- 100-101101-179
- 100-101101-180
- 100-101101-181
- 100-101101-182
- 100-101101-183
- 100-101101-184
- 100-101101-185
- 100-101101-186
- 100-101101-187
- 100-101101-188
- 100-101101-189
- 100-101101-190
- 100-101101-191
- 100-101101-192
- 100-101101-193
- 100-101101-194
- 100-101101-195
- 100-101101-196
- 100-101101-197
- 100-101101-198
- 100-101101-199
- 100-101101-200

Peak	Time	Area	Height	Amount	%Tot
100-101101-101	1.00	52.	0.011	NG/UL	0.00
100-101101-102	1.00	172.	0.061	NG/UL	0.02
100-101101-103	1.00	242.	0.068	NG/UL	0.02

						Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio	
						175.	1.38	175.	0.077	NG/UL	0.02
						180.	1.38	180.	0.075	NG/UL	0.02
						188.	1.38	188.	0.082	NG/UL	0.01
						112.	1.38	112.	0.089	NG/UL	0.42
						117.	1.38	117.	0.117	NG/UL	0.04
						117.	1.38	117.	0.066	NG/UL	0.02
						127.	1.38	127.	0.177	NG/UL	0.06
						12265.	1.38	12265.	1.854	NG/UL	0.58
						11072.	1.38	11072.	2.394	NG/UL	0.75
						562.	1.38	562.	0.245	NG/UL	0.08
						7731.	1.38	7731.	1.287	NG/UL	0.40
						5586.	1.38	5586.	1.339	NG/UL	0.42
						2001.	1.38	2001.	0.495	NG/UL	0.16
						14297.	1.38	14297.	1.796	NG/UL	0.56
						7475.	1.38	7475.	1.026	NG/UL	0.32
						6508.	1.38	6508.	0.893	NG/UL	0.28
						1013.	1.38	1013.	0.146	NG/UL	0.05
						7094.	1.38	7094.	0.915	NG/UL	0.29

						Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio
						0.01	25.00	0.001	2.024	0.00
						0.02	25.00	0.002	1.192	0.00
						0.07	25.00	0.004	1.504	0.00
						0.08	25.00	0.003	0.966	0.00
						0.07	25.00	0.004	1.215	0.00
						0.03	25.00	0.001	0.542	0.00
						1.34	25.00	0.077	1.434	0.05
						1.12	25.00	0.007	1.570	0.00
						0.07	25.00	0.003	1.056	0.00
						0.18	25.00	0.014	1.995	0.01
						0.35	25.00	0.137	1.848	0.07

			Ratio			R. Fac	R. Fac(L)	Ratio
		094						
		095	1.00	1.28	25.10	0.113	1.121	0.10
		096	1.00	1.24	25.00	0.006	0.536	0.01
		100						
		098	1.01	1.19	25.00	1.079	1.533	0.05
		099	1.00	1.14	25.10	0.057	1.064	0.05
		010	1.00	0.10	25.10	1.020	1.031	0.02
		052						
		073	1.00	1.30	25.10	0.093	1.290	0.07
		074						
		085	1.00	1.06	25.00	0.048	1.180	0.04
		106	1.00	1.33	25.00	0.042	1.131	0.04
		104	1.00	0.15	25.00	0.007	1.122	0.01
		100	1.00	1.31	25.00	0.046	1.257	0.04

PTC

05/20/94 09:13:00

SAMPLE: 0270-405119, 0-01, L.S. 3406119-118, 0.0, E, 39-1.06/13 DE-20L

COLIDS.: CRP, 05203201, 05200F01, 0.0, 40-4--300010, HEST D1

RELISE: 0 1-2310 LABEL: H 0, 4.0 044H: 0 0, 1.0 J 0 BASE: 0 20. 3

100.0

1841

1636

1482

1793

100.0

104.6

100.0

100.0

104.6

100.0

100.0

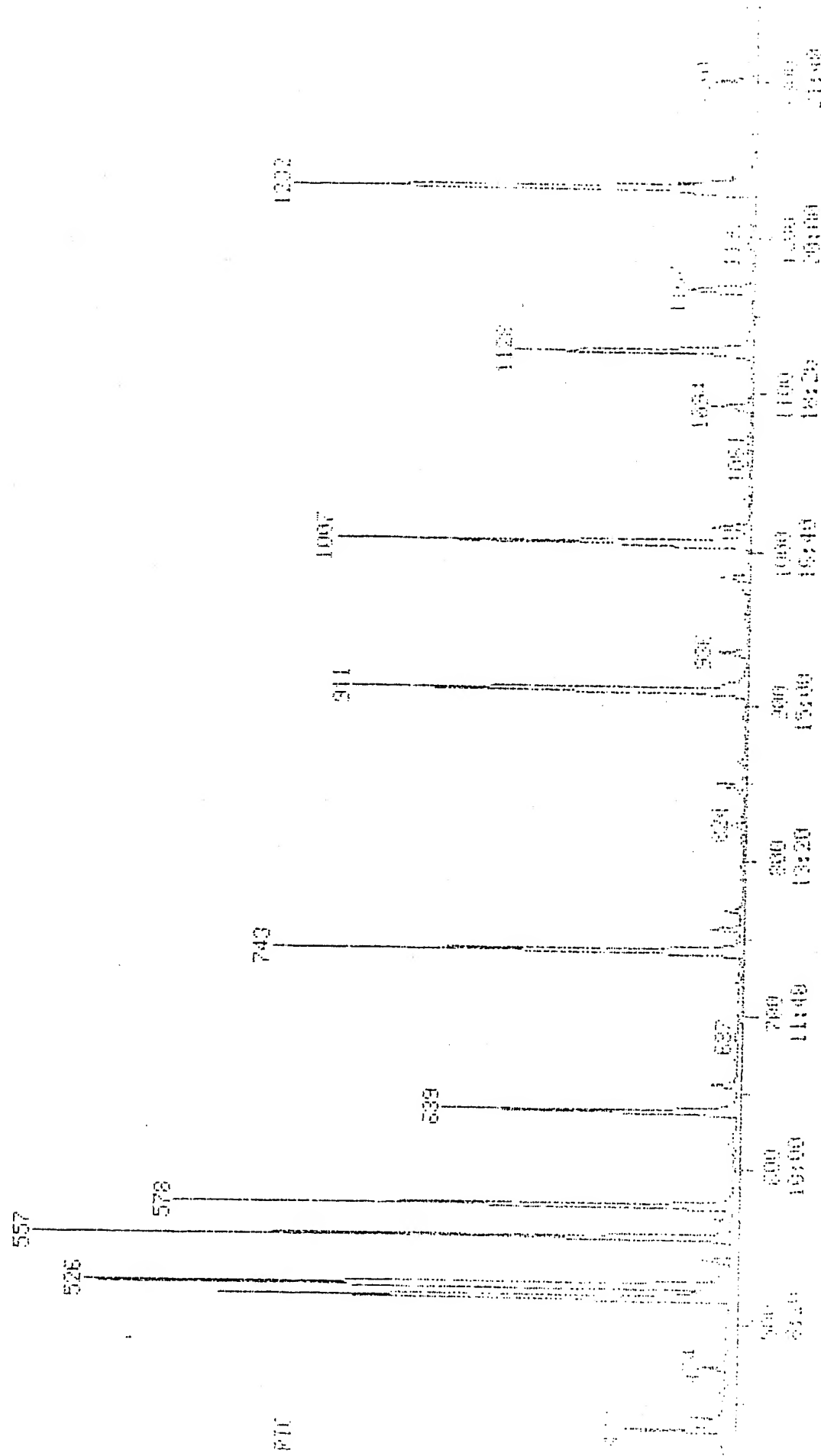
100.0

100.0

130000

RIC
 86/28/94 23:19:00
 DATA: B611911 #1
 CALI: B611911 #3
 SAMPLE: 8270.406113, A-01, L/S, 9406119-118, B.E.30-1.06/13 DE-2UL
 COND.S.: CAP, 06205201, 06200F01, 40/4--300010, INST D1
 RANGE: 5 1.2310 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

400.0





Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl) Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl) Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-13

Operational Tech

SAMPLE ID: A-02 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 16:15:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s06.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 17-JUN-94 16:15

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 9406119-13B

Misc Info : 9406119-13B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Cal File: j168cc1.d

Als bottle: 13

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	ON-COLUMN	FINAL
=====	----	----	--	-----	(ng)	(ug/Kg)
\$ 3 2-Fluorophenol		112.00	3.698	(0.772)	549394	110 1900
\$ 5 Phenol-d5		99.00	4.485	(0.936)	527265	100 1700
\$ 8 2-Chlorophenol-d4		132.00	4.616	(0.963)	577768	100 1700
* 11 1,4-Dichlorobenzene-d4		152.00	4.792	(1.000)	130676	40
\$ 13 1,2-Dichlorobenzene-d4		152.00	4.989	(0.615)	240596	62 1000
15 Benzyl alcohol		108.00	4.989	(1.041)	3857	4 61(aQ)
19 meta,para-Cresol		108.00	5.538	(1.156)	16719	3 55(aQ)
20 4-Methylphenol		108.00	5.538	(1.156)	16719	3 55(aQ)
21 N-Nitroso-di-n-propylamine		70.00	5.329	(1.112)	195142	55-1) 910(Q)
\$ 23 Nitrobenzene-d5		92.00	5.373	(0.876)	464612	83 1400
24 Nitrobenzene		77.00	5.461	(0.891)	64051	12 200(aQ)
25 Isophorone		82.00	5.647	(0.921)	30966	3 50(a)
26 2-Nitrophenol		139.00	5.735	(0.935)	13497	4 74(aQ)
27 2,4-Dimethylphenol		107.00	5.757	(0.939)	25902	5 84(a)
28 bis(2-Chloroethoxy)methane		93.00	5.900	(0.962)	17354	3 54(aQ)
29 Benzoic acid		122.00	5.757	(0.939)	15754	4 67(aQ)
* 32 Naphthalene-d8		136.00	6.131	(1.000)	453795	40
33 Naphthalene		128.00	6.153	(1.004)	42996	3 54(a)
34 4-Chloroaniline		127.00	5.945	(0.953)	36693	6 100(aQ)
\$ 40 2-Fluorobiphenyl		172.00	7.328	(0.904)	719038	77 1300
46 2,6-Dinitrotoluene		165.00	8.108	(1.000)	38288	14 240(aQ)
* 48 Acenaphthene-d10		164.00	8.108	(1.000)	290298	40
52 2,4-Dinitrotoluene		165.00	8.108	(1.000)	38288	12 190(aQ)
\$ 61 2,4,6-Tribromophenol		330.00	9.021	(0.922)	93760	77 1300(Q)
* 65 Phenanthrene-d10		188.00	9.781	(1.000)	375877	40
\$ 72 Terphenyl-d14		244.00	11.637	(0.879)	469942	57 1100
* 76 Chrysene-d12		240.00	13.245	(1.000)	204015	40
* 83 Perylene-d12		254.00	16.205	(1.000)	250008	40

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s06.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-13B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SCIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	130676	7.81
32 Naphthalene-d8	445390	222695	890780	453795	1.89
48 Acenaphthene-d10	275750	137875	551500	290298	5.28
65 Phenanthrene-d10	336972	168486	673944	375877	11.55
76 Chrysene-d12	146532	73266	293064	204015	39.23
83 Perylene-d12	160474	80237	320948	250008	55.79

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.20
32 Naphthalene-d8	6.13	5.63	6.63	6.13	-0.05
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.20
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.08
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.08
83 Perylene-d12	16.21	15.71	16.71	16.21	-0.02

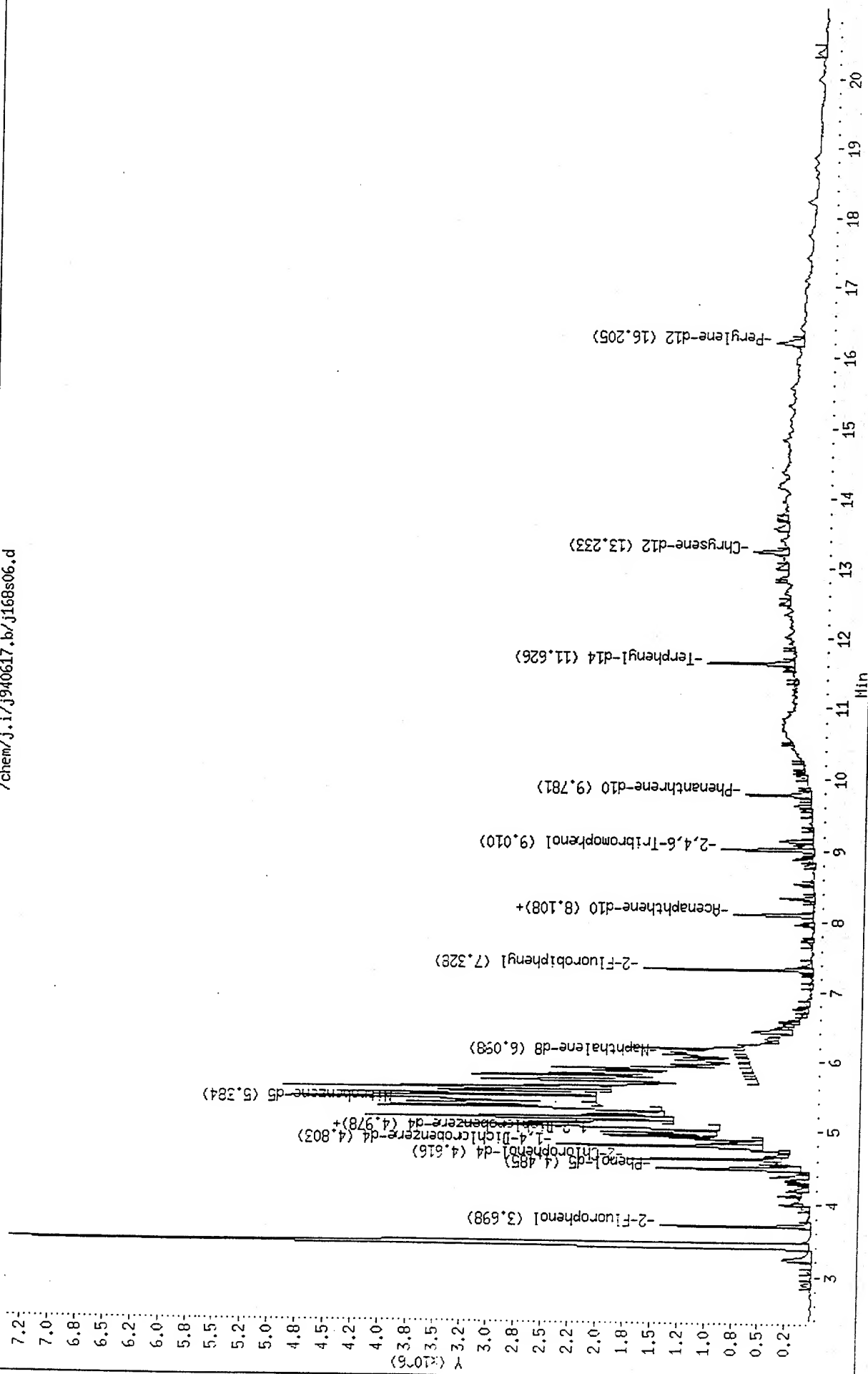
AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s06.d
 Date : 17-JUN-1994 16:15
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Page 1

Column diameter : 0.25

/chem/j.i/j940617.b/j168s06.d





Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-14

Operational Tech

SAMPLE ID: A-02 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 15:48:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s05.d

Lab. Id. : Quant Type: ISTD

Inj Date : 17-JUN-94 15:48 Autotune Date: {

Operator : LH Inst ID: j.i

Smp Info : 9406119-14B

Misc Info : 9406119-14B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Cal File: j168cc1.d

Als bottle: 12

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	REL RT	RESPONSE	ON-COLUMN	FINAL
						(ng)	(ug/Kg)
=====	====	==	=====	=====	=====	=====	
\$ 3 2-Flucrophenol	112.00	3.698	(0.772)	518566	110	1800	
\$ 5 Phenol-d5	99.00	4.483	(0.936)	630928	100	1700	
\$ 8 2-Chlorophenol-d4	132.00	4.614	(0.963)	566516	100	1700	
* 11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	129775	40		
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	251198	68	1100	
21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64030	18	300 (aQ)	
\$ 23 Nitrobenzene-d5	82.00	5.367	(0.877)	415441	71	1200	
* 32 Naphthalene-d8	136.00	6.119	(1.000)	473372	40		
\$ 40 2-Flucrobiphenyl	172.00	7.328	(0.904)	703615	80	1300	
* 48 Acenaphthene-d10	164.00	8.101	(1.000)	275429	40		
\$ 61 2,4,6-Tribromophenol	330.00	9.016	(0.922)	81952	61	1000 (Q)	
* 65 Phenanthrene-d10	188.00	9.779	(1.000)	412579	40		
69 Di-n-butylphthalate	149.00	10.422	(1.066)	71459	4	71 (a)	
\$ 72 Terphenyl-d14	244.00	11.632	(0.879)	673220	74	1200	
* 76 Chrysene-d12	240.00	13.237	(1.000)	266257	40		
* 83 Perylene-d12	264.00	14.198	(1.000)	247378	40		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(LOQ).

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s05.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-14B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	129775	7.07
32 Naphthalene-d8	445390	222695	890780	473372	6.28
48 Acenaphthene-d10	275750	137875	551500	275429	-0.12
65 Phenanthrene-d10	336972	168486	673944	412579	22.44
76 Chrysene-d12	146532	73266	293064	266257	81.71
83 Perylene-d12	160474	80237	320948	247378	54.15

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.28
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.10
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.14
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.06

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

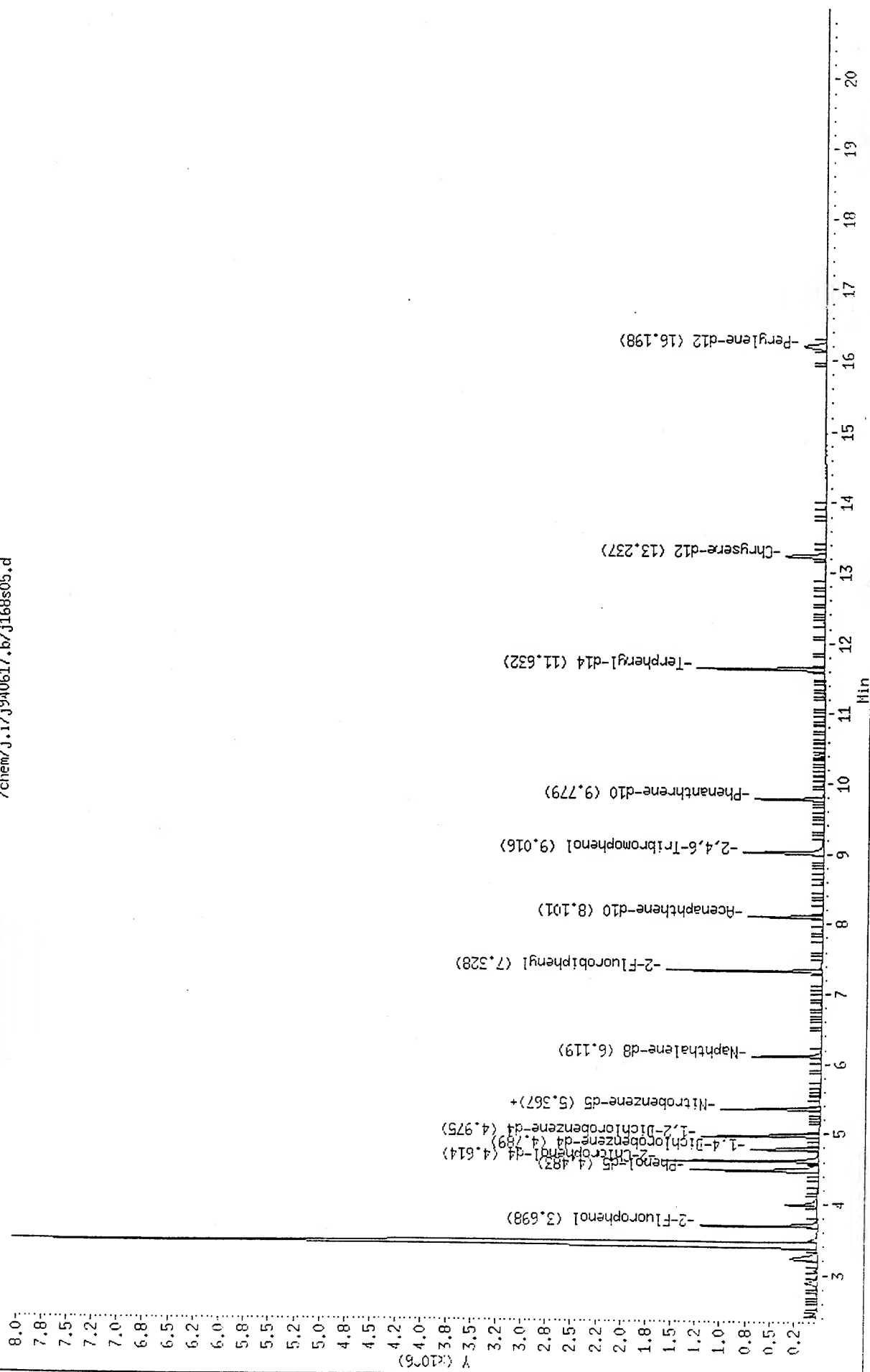
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s05.d
 Date : 17-JUN-1994 15:48
 Instrument : j.i
 Sample ID :
 Column phase : J&M DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25

/chem/j.i./j940617.b/j168s05.d





Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	330	µg/Kg
Benzo(g,h,i)Perylene	ND	1600	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl) Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl) Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-09

Operational Tech

SAMPLE ID: A-03 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 17:38:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s09.d

Lab. Id. :

Inj Date : 17-JUN-94 17:38

Operator : LH

Smp Info : 9406119-09B

Misc Info : 9406119-09B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Als bottle: 16

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG	RT	REL RT	RESPONSE	CONCENTRATIONS	
					ON-COLUMN	FINAL
	MASS				ng)	(ug/Kg)
-----	----	--	-----	-----	-----	-----
S 3 2-Fluorophenol	112.00	3.698	(0.772)	514152	100	1700
S 5 Phenol-d5	99.00	4.483	(0.936)	623987	94	1600
S 8 2-Chlorophenol-d4	132.00	4.614	(0.963)	566234	96	1600
* 11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	138972	40	
S 13 1,2-Dichlorobenzene-d4	152.00	4.986	(0.615)	254255	64	1100
21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64106	17	280 (aQ)
S 23 Nitrobenzene-d5	82.00	5.367	(0.877)	417315	68	1100
* 32 Naphthalene-d8	136.00	6.119	(1.000)	499294	40	
* 40 2-Fluorobiphenyl	172.00	7.329	(0.904)	707135	74	1200
* 48 Acenaphthene-d10	164.00	8.103	(1.000)	295630	40	
S 61 2,4,6-Tribromophenol	330.00	9.018	(0.922)	102156	77	1300 (Q)
* 65 Phenanthrene-d10	188.00	9.783	(1.000)	410258	40	
S 72 Terphenyl-d14	244.00	11.633	(0.879)	617124	69	1200
* 76 Chrysene-d12	240.00	13.234	(1.000)	261395	40	
* 93 Perylene-d12	264.00	16.197	(1.000)	255275	40	

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: j940617.b
Sample Matrix: SOLID Fraction: SV
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 8270s.spk Quant Type: 1STD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-09B

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 3 2-Fluorophenol	150	100	66.51	25-121
\$ 5 Phenol-d5	150	94	62.56	24-113
\$ 8 2-Chlorophenol-d4	150	96	64.37	20-130
\$ 13 1,2-Dichlorobenzen	100	64	64.45	20-130
\$ 23 Nitrobenzene-d5	100	68	68.09	23-120
\$ 40 2-Fluorobiphenyl	100	74	74.48	30-115
\$ 61 2,4,6-Tribromophen	150	77	51.08	19-122
\$ 72 Terphenyl-d14	100	69	69.02	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s09.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-09B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	138972	14.66
32 Naphthalene-d8	445390	222695	890780	499294	12.10
48 Acenaphthene-d10	275750	137875	551500	295630	7.21
65 Phenanthrene-d10	336972	168486	673944	410268	21.75
76 Chrysene-d12	146532	73266	293064	261395	78.39
83 Perylene-d12	160474	80237	320948	255275	59.08

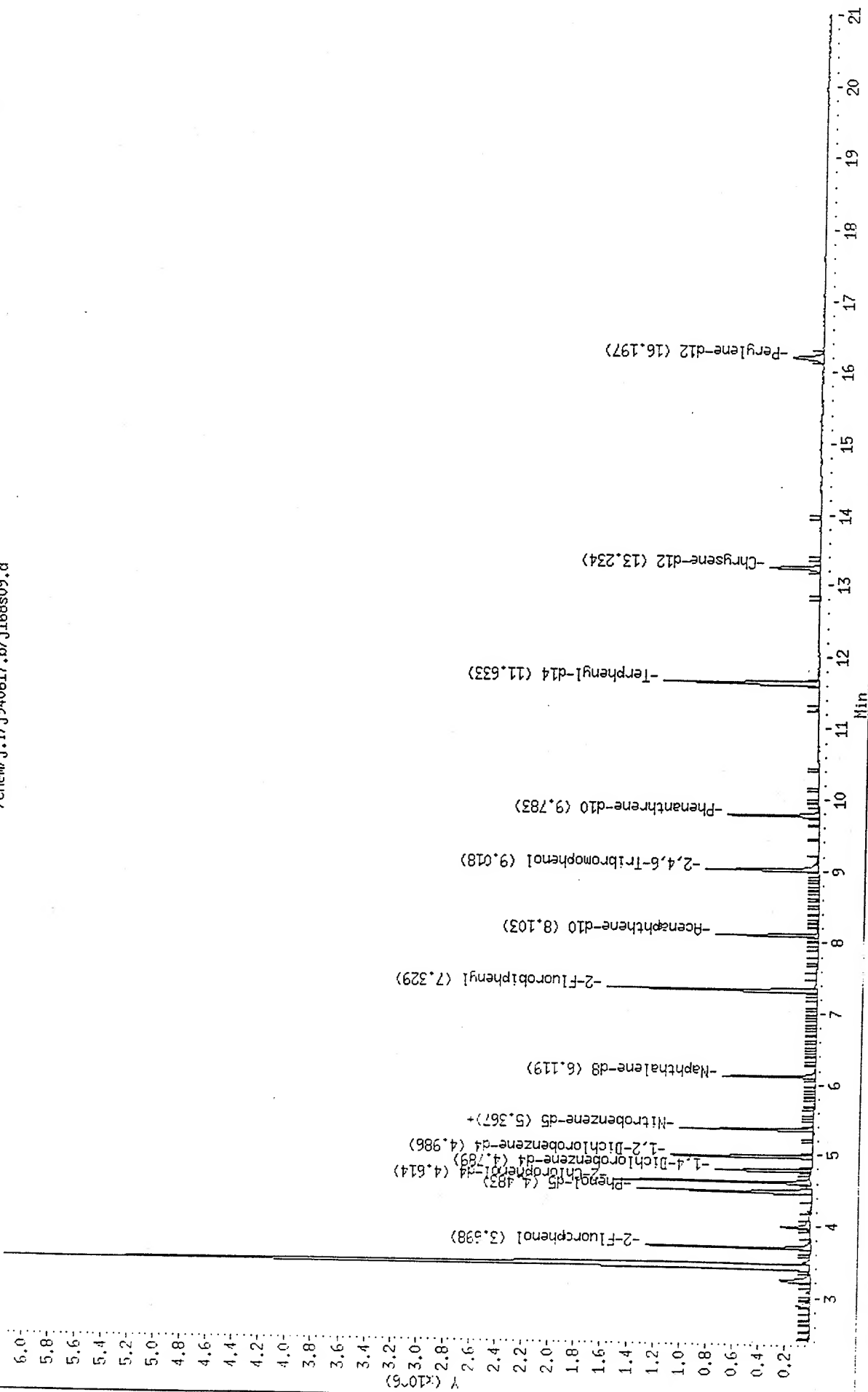
COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.24
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.24
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.27
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.06
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.16
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.07

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s09.d
 Date : 17-JUN-1994 17:38
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25

/chem/j.i./j940617.b/j168s09.d





Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		
	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	330	µg/Kg
Benzo(g,h,i)Perylene	ND	1600	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-10

Operational Tech

SAMPLE ID: A-03 BH Int.2

ANALYTICAL DATA (continued)			
PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 14:25:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s02.d
Lab. Id. :
Inj Date : 17-JUN-1994 14:25
Operator : LH
Smp Info : 9406119-10B
Misc Info : 9406119-10B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 9
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i
Cal File: j168cc1.d
Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng) FINAL (ug/Kg)
-----	----	----	--	-----	-----	-----
\$ 3 2-Fluorophenol	112.00	3.687	(0.770)	494661	100	1700
\$ 5 Phenol-d5	99.00	4.483	(0.936)	596514	96	1600
\$ 8 2-Chlorophenol-d4	132.00	4.614	(0.964)	521651	95	1600
* 11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	129585	40	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	239706	64	1000
21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64327	18	300(aQ)
\$ 23 Nitrobenzene-d5	82.00	5.367	(0.877)	396371	68	1100
* 32 Naphthalene-d8	136.00	6.119	(1.000)	474412	40	
\$ 40 2-Fluorobiphenyl	172.00	7.328	(0.904)	571901	74	1200
* 48 Acenaphthene-d10	164.00	8.102	(1.000)	282546	40	
\$ 61 2,4,6-Tribromophenol	330.00	9.017	(0.922)	137201	100	1700
* 65 Phenanthrene-d10	188.00	9.780	(1.000)	420180	40	
\$ 72 Terphenyl-d14	244.00	11.535	(0.879)	631251	72	1200
* 76 Chrysene-d12	240.00	13.230	(1.000)	256217	40	
* 83 Perylene-d12	264.00	16.195	(1.000)	240113	40	

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: j940617.b
Sample Matrix: SOLID Fraction: SV
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 8270s.spk Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-10B

SURROGATE COMPOUND		AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$	3 2-Flucrophenol	150	100	68.62	25-121
\$	5 Phenol-d5	150	96	64.14	24-113
\$	8 2-Chlorophenol-d4	150	95	63.60	20-130
\$	13 1,2-Dichlorobenzen	100	64	63.57	20-130
\$	23 Nitrobenzene-d5	100	68	68.06	23-120
\$	40 2-Fluorobiphenyl	100	74	74.04	30-115
\$	61 2,4,6-Tribromophen	150	100	66.98	19-122
\$	72 Terphenyl-d14	100	72	72.03	18-137

* - Values outside of QC limits

Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s02.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-10B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	129585	6.91
32 Naphthalene-d8	445390	222695	890780	474412	6.52
48 Acenaphthene-d10	275750	137875	551500	282546	2.46
65 Phenanthrene-d10	336972	168486	673944	420180	24.69
76 Chrysene-d12	146532	73266	293064	256217	74.85
83 Perylene-d12	160474	80237	320948	240113	49.63

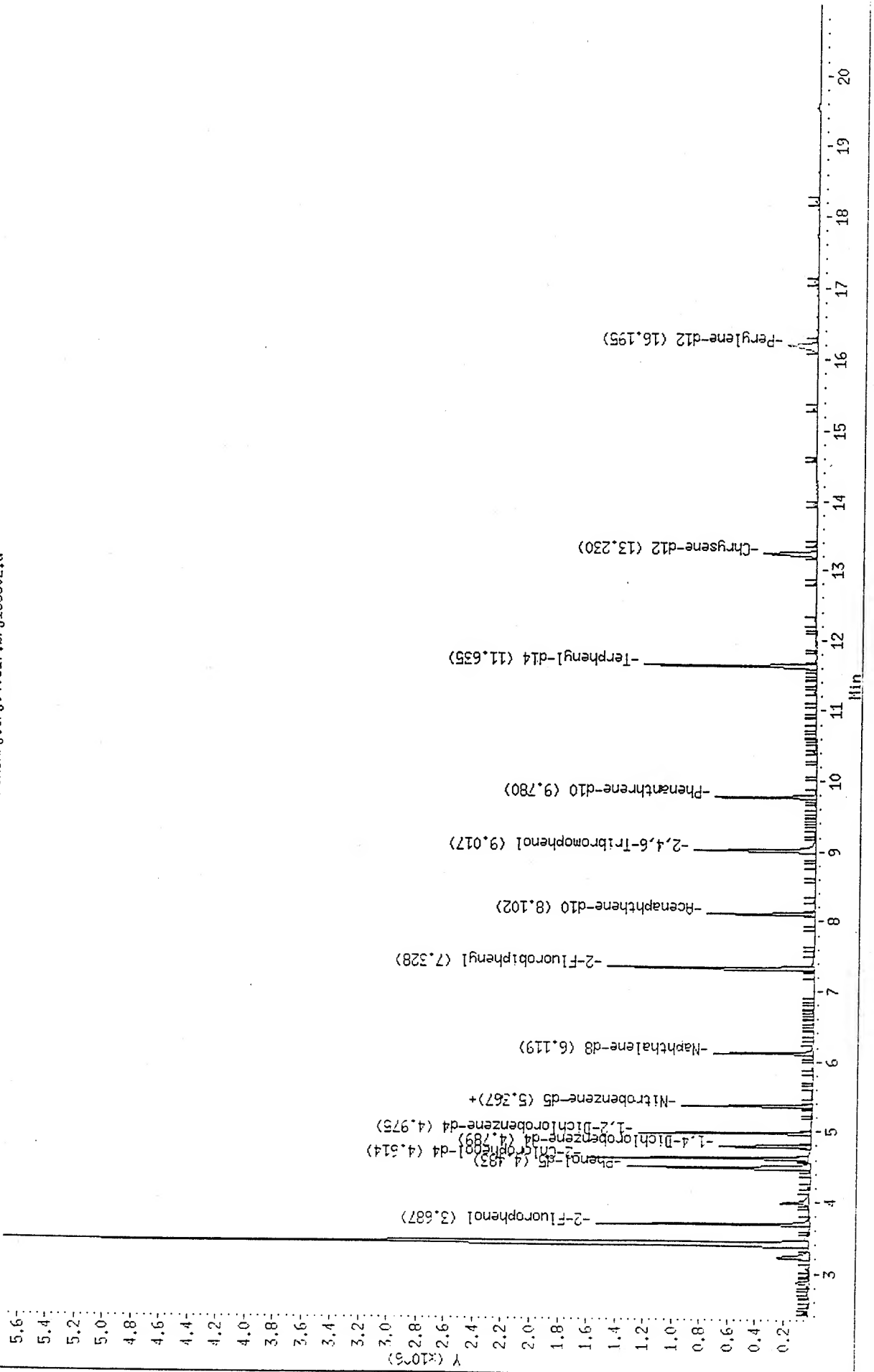
COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.28
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.09
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.19
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.08

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s02.d
Date : 17-JUN-1994 14:25
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25

/chem/j.i/j940617.b/j168s02.d





Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	PQL*		
Acenaphthene	ND	1600		µg/Kg
Acenaphthylene	ND	1600		µg/Kg
Aniline	ND	1600		µg/Kg
Anthracene	ND	1600		µg/Kg
Benzo(a)Anthracene	ND	1600		µg/Kg
Benzo(b)Fluoranthene	ND	1600		µg/Kg
Benzo(k)Fluoranthene	ND	1600		µg/Kg
Benzo(a)Pyrene	ND	1600		µg/Kg
Benzoic Acid	ND	8000		µg/Kg
Benzo(g,h,i)Perylene	ND	1600		µg/Kg
Benzyl alcohol	ND	1600		µg/Kg
4-Bromophenylphenyl ether	ND	1600		µg/Kg
Butylbenzylphthalate	ND	1600		µg/Kg
di-n-Butyl phthalate	ND	1600		µg/Kg
Carbazole	ND	1600		µg/Kg
4-Chloroaniline	ND	1600		µg/Kg
bis(2-Chloroethoxy)Methane	ND	1600		µg/Kg
bis(2-Chloroethyl)Ether	ND	1600		µg/Kg
bis(2-Chloroisopropyl)Ether	ND	1600		µg/Kg
4-Chloro-3-Methylphenol	ND	1600		µg/Kg
2-Chloronaphthalene	ND	1600		µg/Kg
2-Chlorophenol	ND	1600		µg/Kg
4-Chlorophenylphenyl ether	ND	1600		µg/Kg
Chrysene	ND	1600		µg/Kg
Dibenz(a,h)Anthracene	ND	1600		µg/Kg
Dibenzofuran	ND	1600		µg/Kg
1,2-Dichlorobenzene	ND	1600		µg/Kg
1,3-Dichlorobenzene	ND	1600		µg/Kg
1,4-Dichlorobenzene	ND	1600		µg/Kg
3,3'-Dichlorobenzidine	ND	1600		µg/Kg
2,4-Dichlorophenol	ND	1600		µg/Kg
Diethylphthalate	ND	1600		µg/Kg
2,4-Dimethylphenol	ND	1600		µg/Kg
Dimethyl Phthalate	ND	1600		µg/Kg
4,6-Dinitro-2-Methylphenol	ND	4000		µg/Kg
2,4-Dinitrophenol	ND	4000		µg/Kg
2,4-Dinitrotoluene	ND	1600		µg/Kg
2,6-Dinitrotoluene	ND	1600		µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-01

Operational Tech

SAMPLE ID: A-04 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	1600	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	1600	µg/Kg
Fluoranthene	ND	1600	µg/Kg
Fluorene	ND	1600	µg/Kg
Hexachlorobenzene	ND	1600	µg/Kg
Hexachlorobutadiene	ND	1600	µg/Kg
Hexachloroethane	ND	1600	µg/Kg
Hexachlorocyclopentadiene	ND	1600	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	1600	µg/Kg
Isophorone	ND	1600	µg/Kg
2-Methylnaphthalene	ND	1600	µg/Kg
2-Methylphenol	ND	1600	µg/Kg
4-Methylphenol	ND	1600	µg/Kg
Naphthalene	ND	1600	µg/Kg
2-Nitroaniline	ND	4000	µg/Kg
3-Nitroaniline	ND	4000	µg/Kg
4-Nitroaniline	ND	4000	µg/Kg
Nitrobenzene	ND	1600	µg/Kg
2-Nitrophenol	ND	1600	µg/Kg
4-Nitrophenol	ND	4000	µg/Kg
N-Nitrosodiphenylamine (1)	ND	1600	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	1600	µg/Kg
Di-n-Octyl Phthalate	ND	1600	µg/Kg
Pentachlorophenol	ND	4000	µg/Kg
Phenanthrene	ND	1600	µg/Kg
Phenol	ND	1600	µg/Kg
Pyrene	ND	1600	µg/Kg
Pyridine	ND	1600	µg/Kg
1,2,4-Trichlorobenzene	ND	1600	µg/Kg
2,4,5-Trichlorophenol	ND	4000	µg/Kg
2,4,6-Trichlorophenol	ND	1600	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 20:22:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s15.d
Lab. Id. :
Inj Date : 17-JUN-1994 20:22
Operator : LH
Smp Info : 9406119-01B 5X
Misc Info : 9406119-01B 5X
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 22
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j158cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng) FINAL (ug/Kg)
-----	----	----	==	-----	-----	-----
\$ 3 2-Fluorophenol		112.00	3.685	(0.768)	109379	23 380
\$ 5 Phenol-d5		99.00	4.492	(0.936)	141000	23 380
\$ 8 2-Chlorophenol-d4		132.00	4.623	(0.964)	127874	23 390
* 11 1,4-Dichlorobenzene-d4		152.00	4.798	(1.000)	129620	40
\$ 13 1,2-Dichlorobenzene-d4		152.00	4.984	(0.614)	55829	19 310(a)
\$ 23 Nitrobenzene-d5		82.00	5.367	(0.875)	81636	16 260(a)
* 32 Naphthalene-d8		136.00	6.134	(1.000)	426664	40
\$ 40 2-Fluorobiphenyl		172.00	7.330	(0.904)	150142	21 350
* 48 Acenaphthene-d10		154.00	8.111	(1.000)	224780	40
\$ 61 2,4,6-Tribromophenol		330.00	9.029	(0.000)	8990	12 200(aM)
* 65 Phenanthrene-d10		188.00	9.795	(1.000)	225618	40
\$ 72 Terphenyl-d14		244.00	11.645	(0.877)	101295	12 190(a)
* 76 Chrysene-d12		240.00	13.281	(1.000)	256043	40
* 83 Perylene-d12		264.00	16.284	(1.000)	285481	40
84 Indeno(1,2,3-cd)pyrene		276.00	19.498	(1.197)	47917	4 76(a)
86 Benzo(g,h,i)perylene		276.00	20.466	(1.257)	52268	6 96(a)

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s15.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-01B 5X

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

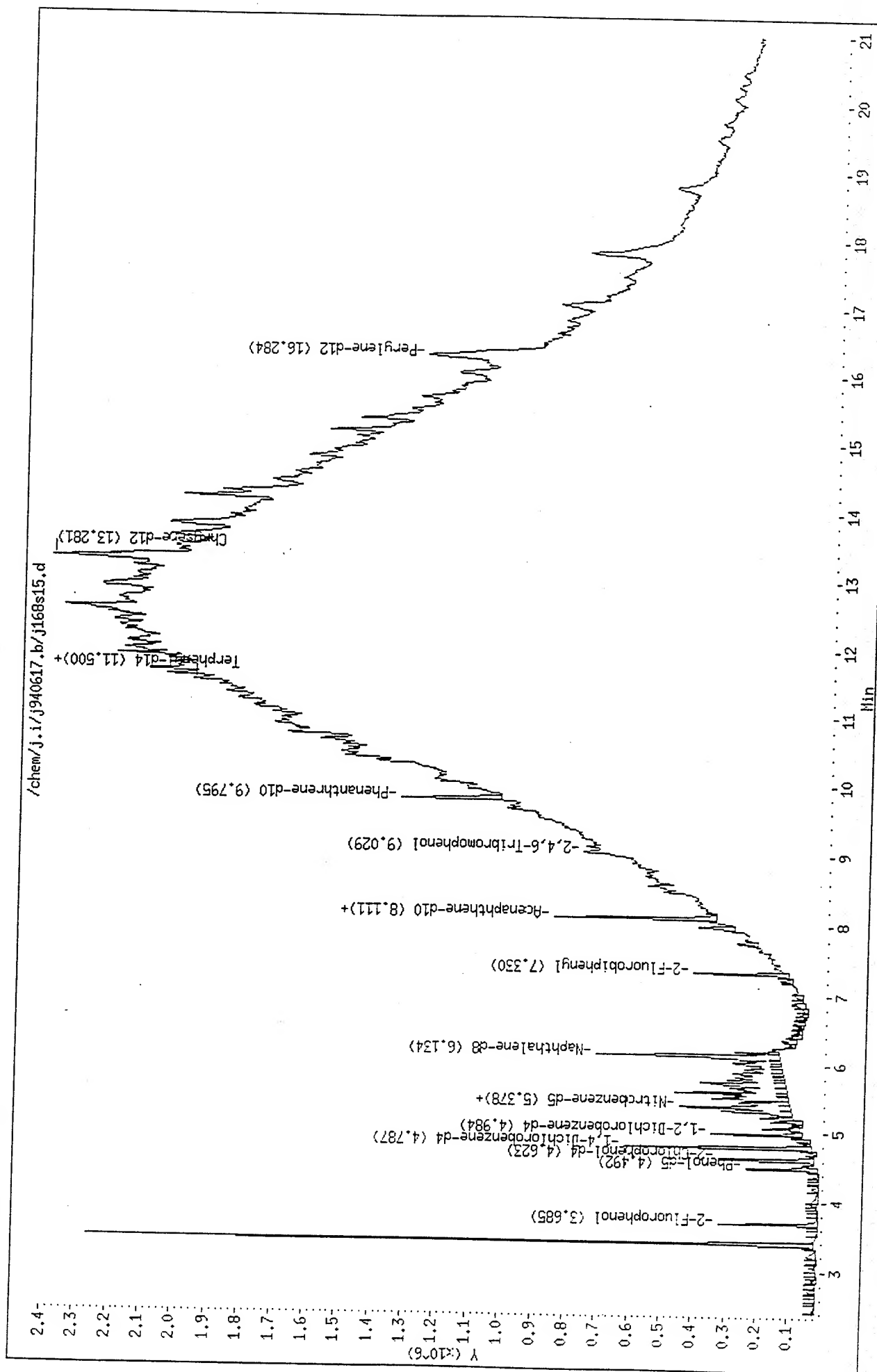
COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	129620	6.94
32 Naphthalene-d8	445390	222695	890780	426664	-4.20
48 Acenaphthene-d10	275750	137875	551500	224780	-18.48
65 Phenanthrene-d10	336972	168486	673944	225618	-33.05
76 Chrysene-d12	146532	73266	293064	256043	74.74
83 Perylene-d12	160474	80237	320948	285481	77.90

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.80	-0.06
32 Naphthalene-d8	6.13	5.63	6.63	6.13	0.00
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.16
65 Phenanthrene-d10	9.79	9.29	10.29	9.79	0.06
76 Chrysene-d12	13.26	12.76	13.76	13.28	0.19
83 Perylene-d12	16.21	15.71	16.71	16.28	0.47

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s15.d
 Date : 17-JUN-1994 20:22
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25





Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-02

Operational Tech

SAMPLE ID: A-04 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/13/94 18:13:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164s05.d

Lab. Id. : Quant Type: ISTD
Inj Date : 13-JUN-94 18:13 Autotune Date: {
Operator : LH Inst ID: j.i

Smp Info : 9406113-02B

Misc Info : 9406113-02B

Comment :

Method : /chem/j.i/j940613.b/jbna8.m

Meth Date : 13-Jun-1994 16:11 csadmin

Cal Date : 13-JUN-1994 14:28

Als bottle: 8

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: WATER

Cal File: j164cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng) (ug/L)
-----	----	==	=====	=====	-----	-----
S 3 2-Fluorophenol	112.00	3.074	(0.740)	379162	100	51
S 5 Phenol-d5	99.00	3.880	(0.934)	499658	110	55
S 8 2-Chlorophenol-d4	132.00	3.979	(0.958)	446785	100	51
* 11 1,4-Dichlorobenzene-d4	152.00	4.153	(1.000)	107236	40	
S 13 1,2-Dichlorobenzene-d4	152.00	4.339	(0.586)	214915	77	38
S 23 Nitrobenzene-d5	82.00	4.720	(0.864)	320676	73	37
* 32 Naphthalene-d8	136.00	5.460	(1.000)	369157	40	
S 40 2-Fluorobiphenyl	172.00	6.657	(0.899)	583705	81	41
* 48 Acenaphthene-d10	164.00	7.409	(1.000)	228978	40	
S 61 2,4,6-Tribromophenol	330.00	8.301	(0.919)	144027	120	58
* 65 Phenanthrene-d10	138.00	9.042	(1.000)	326726	40	
S 72 Terphenyl-d14	244.00	10.829	(0.886)	570145	80	40
* 76 Chrysene-d12	240.00	12.226	(1.000)	107212	40	
* 83 Perylene-d12	264.00	14.750	(1.000)	100442	40	

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j164s05.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940613.b/jbna8.m
 Misc Info: 9406119-02B

Calibration Date: 06/13/94
 Calibration Time: 1428
 Sample Type: WATER
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	85780	42890	171560	107236	25.01
32 Naphthalene-d8	329103	164551	658206	369157	12.17
48 Acenaphthene-d10	208681	104340	417362	228978	9.73
65 Phenanthrene-d10	281650	140825	563300	326726	16.00
76 Chrysene-d12	142982	71491	285964	207212	44.92
83 Perylene-d12	150259	75129	300518	200442	33.40

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.15	3.65	4.65	4.15	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.46	-0.22
48 Acenaphthene-d10	7.42	6.92	7.92	7.41	-0.09
65 Phenanthrene-d10	9.06	8.56	9.56	9.04	-0.15
76 Chrysene-d12	12.24	11.74	12.74	12.23	-0.14
83 Perylene-d12	14.77	14.27	15.27	14.75	-0.12

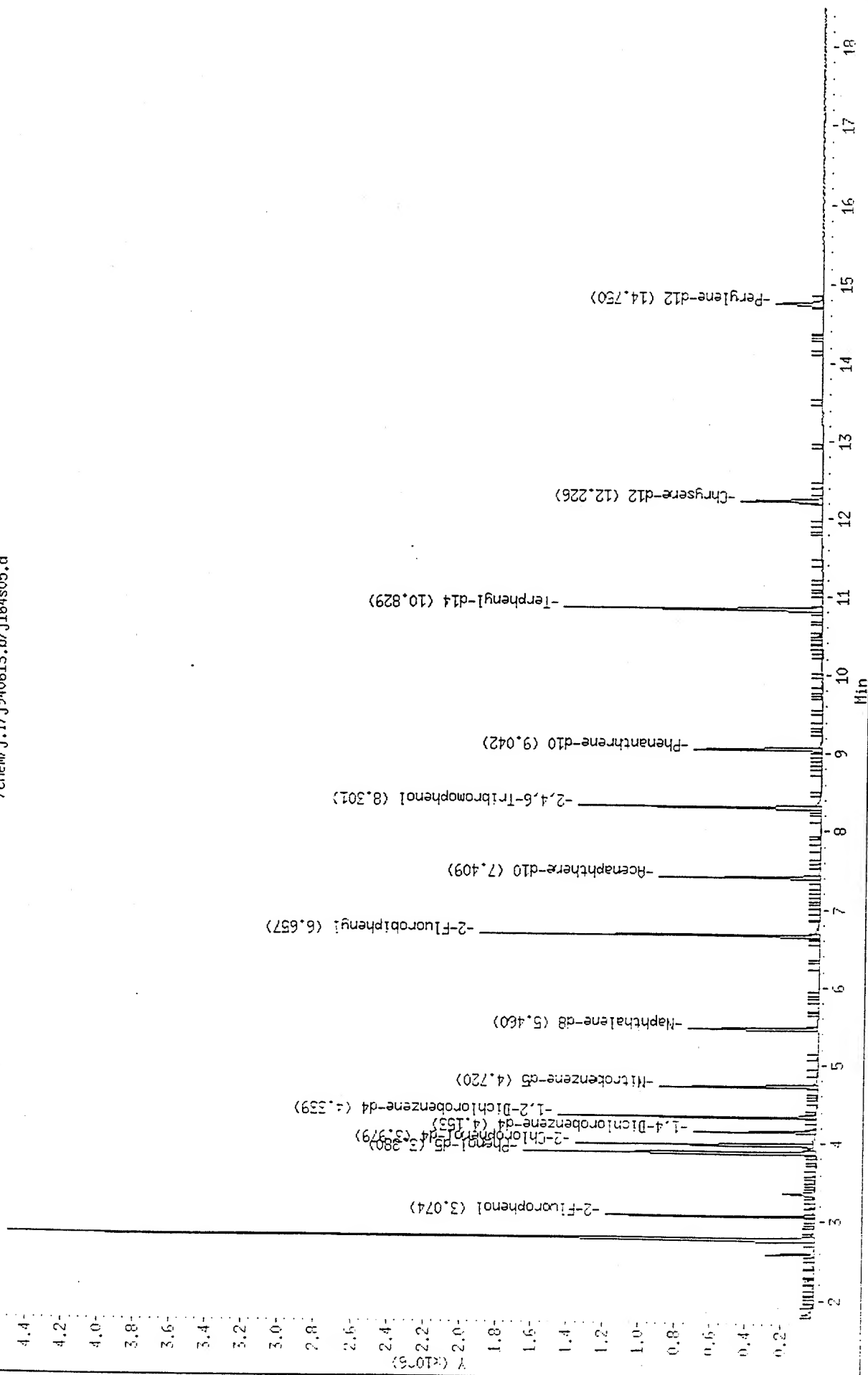
AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940613.b/j164s05.d
 Date : 13-JUN-94 18:13
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Page 4

Column diameter : 0.25

/chem/j.i/j940613.b/j164s05.d





Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	660	µg/Kg
Acenaphthylene	ND	660	µg/Kg
Aniline	ND	660	µg/Kg
Anthracene	ND	660	µg/Kg
Benzo(a)Anthracene	ND	660	µg/Kg
Benzo(b)Fluoranthene	ND	660	µg/Kg
Benzo(k)Fluoranthene	ND	660	µg/Kg
Benzo(a)Pyrene	ND	660	µg/Kg
Benzoic Acid	ND	3200	µg/Kg
Benzo(g,h,i)Perylene	ND	660	µg/Kg
Benzyl alcohol	ND	660	µg/Kg
4-Bromophenylphenyl ether	ND	660	µg/Kg
Butylbenzylphthalate	ND	660	µg/Kg
di-n-Butyl phthalate	ND	660	µg/Kg
Carbazole	ND	660	µg/Kg
4-Chloroaniline	ND	660	µg/Kg
bis(2-Chloroethoxy)Methane	ND	660	µg/Kg
bis(2-Chloroethyl) Ether	ND	660	µg/Kg
bis(2-Chloroisopropyl) Ether	ND	660	µg/Kg
4-Chloro-3-Methylphenol	ND	660	µg/Kg
2-Chloronaphthalene	ND	660	µg/Kg
2-Chlorophenol	ND	660	µg/Kg
4-Chlorophenylphenyl ether	ND	660	µg/Kg
Chrysene	ND	660	µg/Kg
Dibenz(a,h)Anthracene	ND	660	µg/Kg
Dibenzofuran	ND	660	µg/Kg
1,2-Dichlorobenzene	ND	660	µg/Kg
1,3-Dichlorobenzene	ND	660	µg/Kg
1,4-Dichlorobenzene	ND	660	µg/Kg
3,3'-Dichlorobenzidine	ND	660	µg/Kg
2,4-Dichlorophenol	ND	660	µg/Kg
Diethylphthalate	ND	660	µg/Kg
2,4-Dimethylphenol	ND	660	µg/Kg
Dimethyl Phthalate	ND	660	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	1600	µg/Kg
2,4-Dinitrophenol	ND	1600	µg/Kg
2,4-Dinitrotoluene	ND	660	µg/Kg
2,6-Dinitrotoluene	ND	660	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-03

Operational Tech

SAMPLE ID: A-05 BH Int.1

ANALYTICAL DATA (continued)			
PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	660	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	660	µg/Kg
Fluoranthene	2000	660	µg/Kg
Fluorene	ND	660	µg/Kg
Hexachlorobenzene	ND	660	µg/Kg
Hexachlorobutadiene	ND	660	µg/Kg
Hexachloroethane	ND	660	µg/Kg
Hexachlorocyclopentadiene	ND	660	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	660	µg/Kg
Isophorone	ND	660	µg/Kg
2-Methylnaphthalene	ND	660	µg/Kg
2-Methylphenol	ND	660	µg/Kg
4-Methylphenol	ND	660	µg/Kg
Naphthalene	ND	660	µg/Kg
2-Nitroaniline	ND	1600	µg/Kg
3-Nitroaniline	ND	1600	µg/Kg
4-Nitroaniline	ND	1600	µg/Kg
Nitrobenzene	ND	660	µg/Kg
2-Nitrophenol	ND	660	µg/Kg
4-Nitrophenol	ND	1600	µg/Kg
N-Nitrosodiphenylamine (1)	ND	660	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	660	µg/Kg
Di-n-Octyl Phthalate	ND	660	µg/Kg
Pentachlorophenol	ND	1600	µg/Kg
Phenanthrene	920	660	µg/Kg
Phenol	ND	660	µg/Kg
Pyrene	720	660	µg/Kg
Pyridine	ND	660	µg/Kg
1,2,4-Trichlorobenzene	ND	660	µg/Kg
2,4,5-Trichlorophenol	ND	1600	µg/Kg
2,4,6-Trichlorophenol	ND	660	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 19:54:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s14.d

Lab. Id. : Quant Type: ISTD

Inj Date : 17-JUN-1994 19:54 Autotune Date: {

Operator : LH Inst ID: j.i

Smp Info : 9406119-03B 2X

Misc Info : 9406119-03B 2X

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Cal File: j168cc1.d

Als bottle: 21

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng) (ug/Kg)
-----	----	----	--	-----	-----	-----
S 3 2-Fluorophenol		112.00	3.685	(0.770)	245364	53 390
S 5 Phenol-d5		99.00	4.482	(0.936)	305399	52 360
S 8 2-Chlorophenol-d4		132.00	4.613	(0.963)	276554	53 880
* 11 1,4-Dichlorobenzene-d4		152.00	4.788	(1.000)	123898	40
S 13 1,2-Dichlorobenzene-d4		152.00	4.984	(0.615)	127830	37 610
S 23 Nitrobenzene-d5		82.00	5.366	(0.875)	214550	38 630
* 32 Naphthalene-d8		136.00	6.130	(1.000)	464098	40
S 40 2-Fluorobiphenyl		172.00	7.331	(0.904)	378185	45 750
* 48 Acenaphthene-d10		164.00	8.109	(1.000)	261200	40
S 51 2,4,6-Tribromophenol		330.00	9.032	(0.923)	24445	24 390(Q)
* 55 Phenanthrene-d10		188.00	9.784	(1.000)	319201	40
56 Phenanthrene		178.00	9.806	(1.002)	302672	27 ✓ 460
70 Fluoranthene		202.00	11.196	(1.144)	500087	61 ✓ 1000
71 Pyrene		202.00	11.486	(0.865)	423892	21 ✓ 360
S 72 Terphenyl-d14		244.00	11.643	(0.877)	367700	30 500
* 76 Chrysene-d12		240.00	13.277	(1.000)	355536	40
* 83 Perylene-d12		264.00	16.292	(1.000)	376831	40

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s14.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-03B 2X

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	123898	2.22
32 Naphthalene-d8	445390	222695	890780	464098	4.20
48 Acenaphthene-d10	275750	137875	551500	261200	-5.28
65 Phenanthrene-d10	336972	168486	673944	319201	-5.27
76 Chrysene-d12	146532	73266	293064	355536	142.63 <-
83 Perylene-d12	160474	80237	320948	376831	134.82 <-

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.28
32 Naphthalene-d8	6.13	5.63	6.63	6.13	-0.07
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.19
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.05
76 Chrysene-d12	13.26	12.76	13.76	13.28	0.16
83 Perylene-d12	16.21	15.71	16.71	16.29	0.52

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.1/j940617.s/j168s14.d

Page 4

Date : 17-JUN-1994 19:54

Instrument : j.i

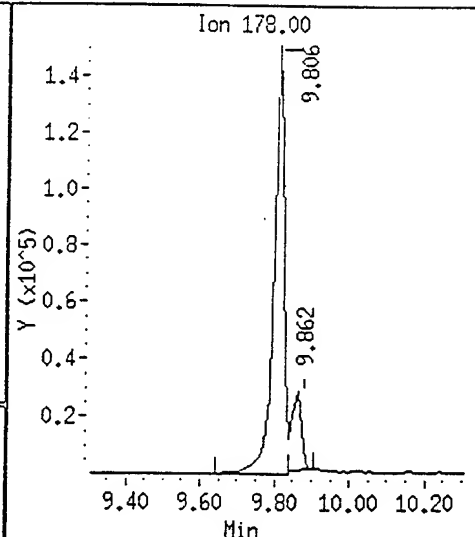
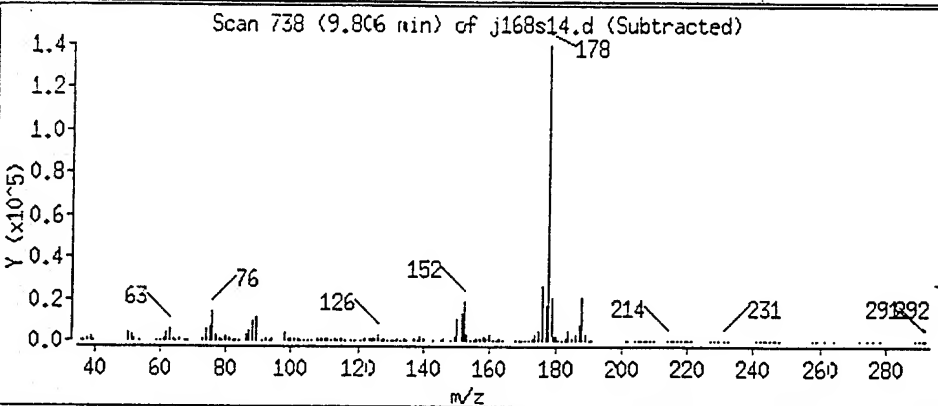
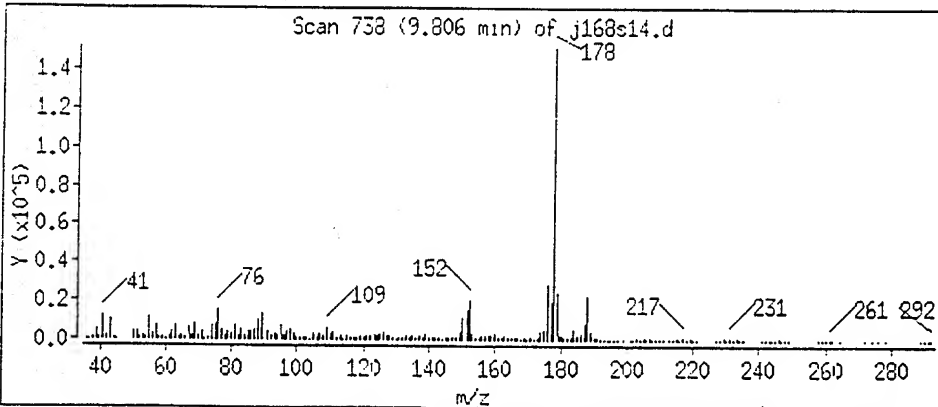
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

66 Phenanthrene



Data File: /chem/j.1/j940617.b/j168s14.d

Page 5

Date : 17-JUN-1994 19:54

Instrument : J.I

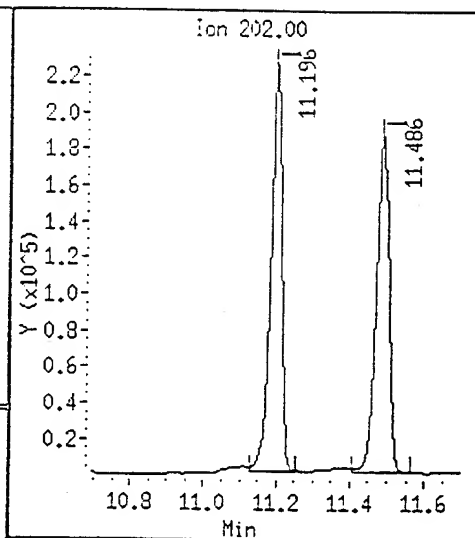
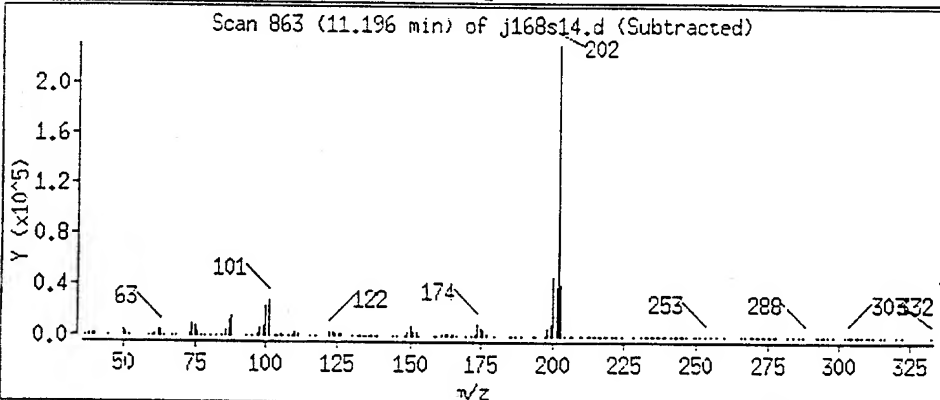
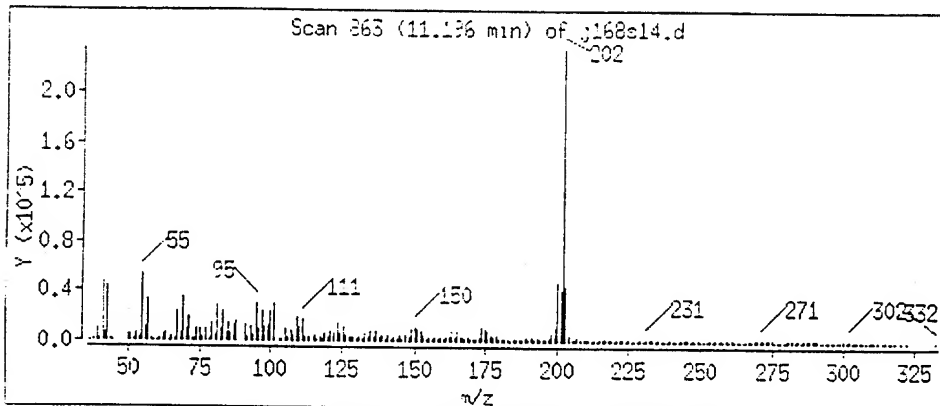
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

70 Fluoranthene



Data File: /chem/j.i/j940617.b/j168s14.d

Page 6

Date : 17-JUN-1994 19:54

Instrument : J.I.

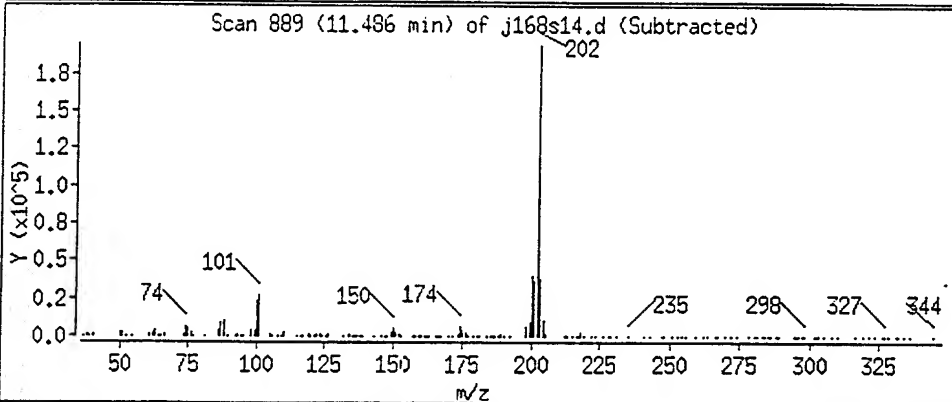
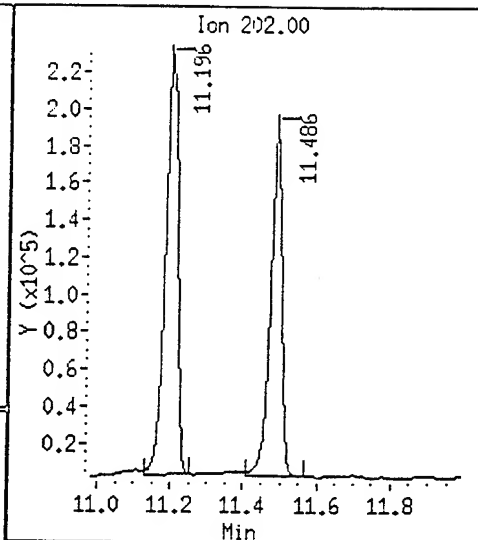
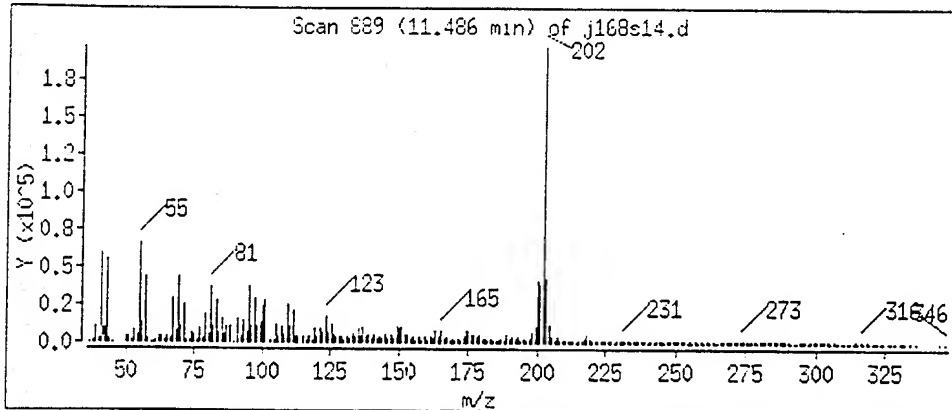
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

71 Pyrene



Data File: /chem/j.i./j940617.b/j168s14.d

Date : 17-JUN-1994 19:54

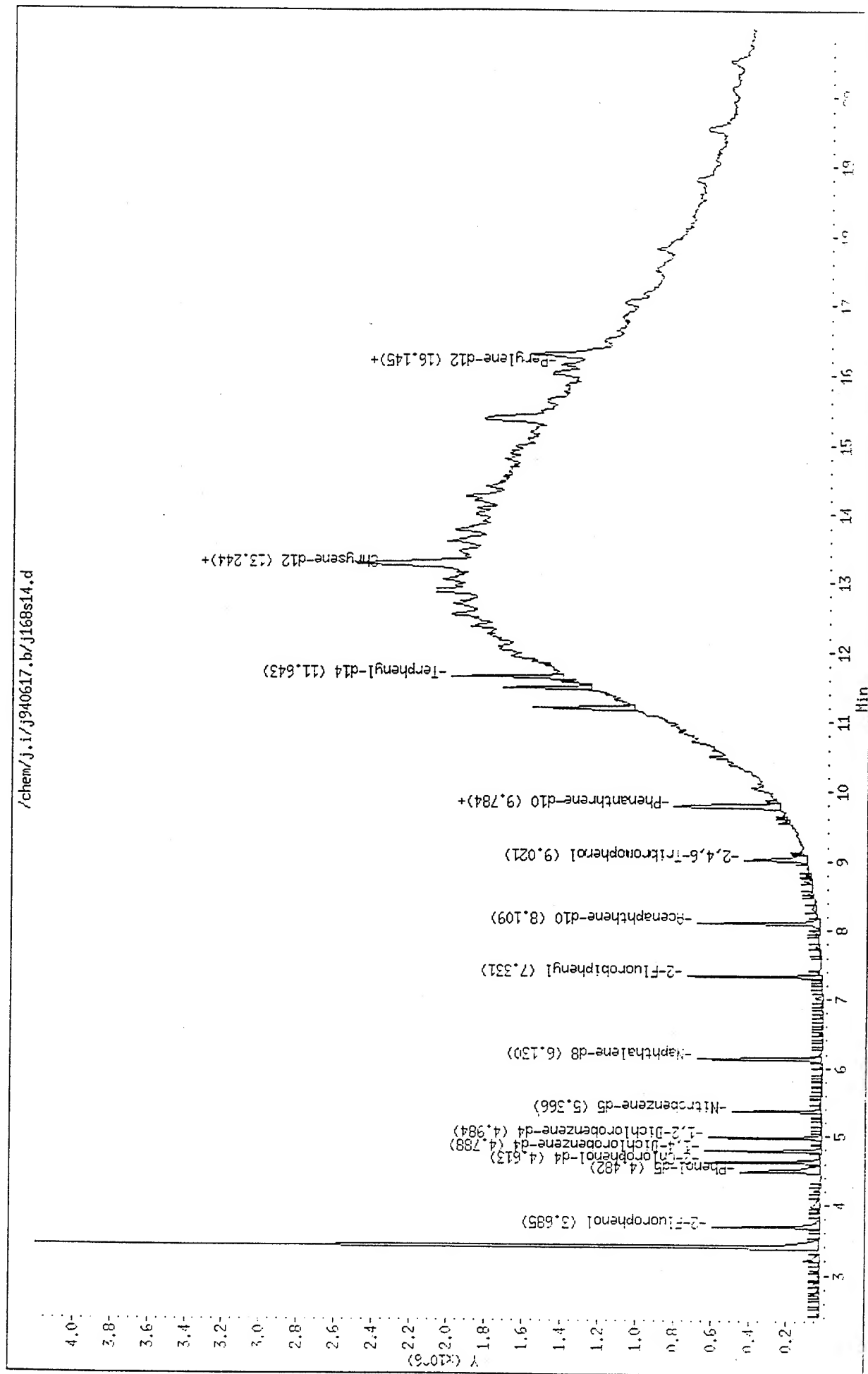
Instrument : j.i

Sample ID :

Column phase : J&W DB-5

Volume Injected (ul) : 2.0

Column diameter : 0.25



Data: B611903.T1

06/21/94 0:05:00

Sample: 8270.406115, A-05, L.S. 9406119-03B, B.E. 30-1, 06/13 DE-2UL

Conds: CAP, 062082D1, 0620DFD1, , , , 40/4--300@10, INST D1

Formula: X5

Instrument: D1

Weight: 0.000

Submitted by:

Analyst: GLT

Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name	
1	CI30 1,4-DICHLOROBENZENE-D4	*INTSTD*
2	CI40 NAPHTHALENE-D8	*INTSTD*
3	CI50 ACENAPHTHENE-D10	*INTSTD*
4	CI60 PHENANTHRENE-D10	*INTSTD*
5	CI70 CHRYSENE-D12	*INTSTD*
6	CI75 PERYLENE-D12	*INTSTD*
7	CS75 1,2-DICHLOROBENZENE-D4	*SURRE*
8	CS20 NITROBENZENE-D5	*SURRE*
9	CS25 2-FLUOROBIPHENYL	*SURRE*
10	CS30 TERPHENYL-D14	*SURRE*
11	CS50 2-FLUOROPHENOL	*SURRE*
12	CS45 PHENOL-D5	*SURRE*
13	CS70 2-CHLOROPHENOL-D4	*SURRE*
14	CS55 2,4,6-TRIBROMOPHENOL	*SURRE*
15	C261 PYRIDINE	
16	C310 N-NITROSODIMETHYLAMINE	
17	C315 PHENOL	
18	C320 ANILINE	
19	C325 BIS(2-CHLOROETHYL)ETHER	
20	C330 2-CHLOROPHENOL	
21	C335 1,3-DICHLOROBENZENE	
22	C340 1,4-DICHLOROBENZENE	
23	C345 BENZYL ALCOHOL	
24	C350 1,2-DICHLOROBENZENE	
25	C355 2-METHYLPHENOL	
26	C356 ORTHO-CRESOL	
27	C360 BIS(2-CHLOROISOPROPYL)ETHER	
28	C365 4-METHYLPHENOL	
29	C366 META, PARA-CRESOLS	
30	C370 N-NITROSO-DI-N-PROPYLAMINE	
31	C375 HEXACHLOROETHANE	
32	C410 NITROBENZENE	
33	C415 ISOPHORONE	
34	C420 2-NITROPHENOL	
35	C425 2,4-DIMETHYLPHENOL	
36	C430 BENZOIC ACID	
37	C435 BIS(2-CHLOROETHOXY)METHANE	
38	C440 2,4-DICHLOROPHENOL	
39	C445 1,2,4-TRICHLOROBENZENE	
40	C450 NAPHTHALENE	
41	C455 4-CHLOROANILINE	
42	C460 HEXACHLOROBUTADIENE	
43	C465 4-CHLORO-3-METHYLPHENOL	
44	C470 2-METHYLNAPHTHALENE	
45	C510 HEXACHLOROCYCLOPENTADIENE	
46	C515 2,4,6-TRICHLOROPHENOL	
47	C520 2,4,5-TRICHLOROPHENOL	

Too high confirmed matrix interference

45 1113 1-ACETYLROPHENYLENE
 46 1114 1-ACETYLROPHENYLENE
 47 1115 1-ACETYLROPHENYLENE
 48 1116 1-ACETYLROPHENYLENE

LINE	NAME	QTY	UNIT	PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE
49	1117 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
50	1118 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
51	1119 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
52	1120 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
53	1121 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
54	1122 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
55	1123 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
56	1124 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
57	1125 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
58	1126 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
59	1127 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
60	1128 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
61	1129 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
62	1130 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
63	1131 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
64	1132 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
65	1133 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
66	1134 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
67	1135 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
68	1136 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
69	1137 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
70	1138 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
71	1139 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
72	1140 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
73	1141 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
74	1142 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
75	1143 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
76	1144 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
77	1145 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
78	1146 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
79	1147 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
80	1148 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
81	1149 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
82	1150 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
83	1151 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
84	1152 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
85	1153 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
86	1154 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
87	1155 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
88	1156 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
89	1157 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
90	1158 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
91	1159 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
92	1160 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
93	1161 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
94	1162 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
95	1163 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
96	1164 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
97	1165 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
98	1166 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
99	1167 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100
100	1168 1-ACETYLROPHENYLENE	1	LB	100	100	100	100	100

[illegible]

1-1-100210, INST 11

1. 1000 2. 1000 3. 1000 4. 1000 5. 1000 6. 1000 7. 1000 8. 1000 9. 1000 10. 1000

481277 0.000

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

455 110.

Journal of Interpersonal Violence 26(10)

1571	1,2-DICHLOROBENZENE	
1572	1,3-DICHLOROBENZENE	
1573	1,4-DICHLOROBENZENE	
1574	1,2-DICHLOROBENZENE	
1575	1,3-DICHLOROBENZENE	
1576	1,4-DICHLOROBENZENE	
1577	1,2-DICHLOROBENZENE	
1578	1,3-DICHLOROBENZENE	
1579	1,4-DICHLOROBENZENE	
1580	1,2-DICHLOROBENZENE	
1581	1,3-DICHLOROBENZENE	
1582	1,4-DICHLOROBENZENE	
1583	1,2-DICHLOROBENZENE	
1584	1,3-DICHLOROBENZENE	
1585	1,4-DICHLOROBENZENE	
1586	1,2-DICHLOROBENZENE	
1587	1,3-DICHLOROBENZENE	
1588	1,4-DICHLOROBENZENE	
1589	1,2-DICHLOROBENZENE	
1590	1,3-DICHLOROBENZENE	
1591	1,4-DICHLOROBENZENE	
1592	1,2-DICHLOROBENZENE	
1593	1,3-DICHLOROBENZENE	
1594	1,4-DICHLOROBENZENE	
1595	1,2-DICHLOROBENZENE	
1596	1,3-DICHLOROBENZENE	
1597	1,4-DICHLOROBENZENE	
1598	1,2-DICHLOROBENZENE	
1599	1,3-DICHLOROBENZENE	
1600	1,4-DICHLOROBENZENE	
1601	1,2-DICHLOROBENZENE	
1602	1,3-DICHLOROBENZENE	
1603	1,4-DICHLOROBENZENE	
1604	1,2-DICHLOROBENZENE	
1605	1,3-DICHLOROBENZENE	
1606	1,4-DICHLOROBENZENE	
1607	1,2-DICHLOROBENZENE	
1608	1,3-DICHLOROBENZENE	
1609	1,4-DICHLOROBENZENE	
1610	1,2-DICHLOROBENZENE	
1611	1,3-DICHLOROBENZENE	
1612	1,4-DICHLOROBENZENE	
1613	1,2-DICHLOROBENZENE	
1614	1,3-DICHLOROBENZENE	
1615	1,4-DICHLOROBENZENE	
1616	1,2-DICHLOROBENZENE	
1617	1,3-DICHLOROBENZENE	
1618	1,4-DICHLOROBENZENE	
1619	1,2-DICHLOROBENZENE	
1620	1,3-DICHLOROBENZENE	
1621	1,4-DICHLOROBENZENE	
1622	1,2-DICHLOROBENZENE	
1623	1,3-DICHLOROBENZENE	
1624	1,4-DICHLOROBENZENE	
1625	1,2-DICHLOROBENZENE	
1626	1,3-DICHLOROBENZENE	
1627	1,4-DICHLOROBENZENE	
1628	1,2-DICHLOROBENZENE	
1629	1,3-DICHLOROBENZENE	
1630	1,4-DICHLOROBENZENE	
1631	1,2-DICHLOROBENZENE	
1632	1,3-DICHLOROBENZENE	
1633	1,4-DICHLOROBENZENE	
1634	1,2-DICHLOROBENZENE	
1635	1,3-DICHLOROBENZENE	
1636	1,4-DICHLOROBENZENE	
1637	1,2-DICHLOROBENZENE	
1638	1,3-DICHLOROBENZENE	
1639	1,4-DICHLOROBENZENE	
1640	1,2-DICHLOROBENZENE	
1641	1,3-DICHLOROBENZENE	
1642	1,4-DICHLOROBENZENE	
1643	1,2-DICHLOROBENZENE	
1644	1,3-DICHLOROBENZENE	
1645	1,4-DICHLOROBENZENE	
1646	1,2-DICHLOROBENZENE	
1647	1,3-DICHLOROBENZENE	
1648	1,4-DICHLOROBENZENE	
1649	1,2-DICHLOROBENZENE	
1650	1,3-DICHLOROBENZENE	
1651	1,4-DICHLOROBENZENE	
1652	1,2-DICHLOROBENZENE	
1653	1,3-DICHLOROBENZENE	
1654	1,4-DICHLOROBENZENE	
1655	1,2-DICHLOROBENZENE	
1656	1,3-DICHLOROBENZENE	
1657	1,4-DICHLOROBENZENE	
1658	1,2-DICHLOROBENZENE	
1659	1,3-DICHLOROBENZENE	
1660	1,4-DICHLOROBENZENE	
1661	1,2-DICHLOROBENZENE	
1662	1,3-DICHLOROBENZENE	
1663	1,4-DICHLOROBENZENE	
1664	1,2-DICHLOROBENZENE	
1665	1,3-DICHLOROBENZENE	
1666	1,4-DICHLOROBENZENE	
1667	1,2-DICHLOROBENZENE	
1668	1,3-DICHLOROBENZENE	
1669	1,4-DICHLOROBENZENE	
1670	1,2-DICHLOROBENZENE	
1671	1,3-DICHLOROBENZENE	
1672	1,4-DICHLOROBENZENE	
1673	1,2-DICHLOROBENZENE	
1674	1,3-DICHLOROBENZENE	
1675	1,4-DICHLOROBENZENE	
1676	1,2-DICHLOROBENZENE	
1677	1,3-DICHLOROBENZENE	
1678	1,4-DICHLOROBENZENE	
1679	1,2-DICHLOROBENZENE	
1680	1,3-DICHLOROBENZENE	
1681	1,4-DICHLOROBENZENE	
1682	1,2-DICHLOROBENZENE	
1683	1,3-DICHLOROBENZENE	
1684	1,4-DICHLOROBENZENE	
1685	1,2-DICHLOROBENZENE	
1686	1,3-DICHLOROBENZENE	
1687	1,4-DICHLOROBENZENE	
1688	1,2-DICHLOROBENZENE	
1689	1,3-DICHLOROBENZENE	
1690	1,4-DICHLOROBENZENE	
1691	1,2-DICHLOROBENZENE	
1692	1,3-DICHLOROBENZENE	
1693	1,4-DICHLOROBENZENE	
1694	1,2-DICHLOROBENZENE	</

[illegible]

Amount Amount %Tot

722. 0.232 NG/UL 0.12

22. 0.008 NG/UL 0.00

20722. 3.793 NG/UL 1.77

2722. 0.450 NG/UL 0.21

1510. 0.371 NG/UL 0.17

351. 0.047 NG/UL 0.02

40747. 5.724 NG/UL 2.68

64. 2.728 NG/UL 1.26

34386. 1.712 NG/UL 2.20

297. 0.135 NG/UL 0.06

150. 0.052 NG/UL 0.02

29519. 3.071 NG/UL 1.44

18325. 2.821 NG/UL 1.32

3121. 0.483 NG/UL 0.23

60743. 3.806 NG/UL 1.78

29386. 2.013 NG/UL 0.94

25696. 1.759 NG/UL 0.82

3192. 0.230 NG/UL 0.11

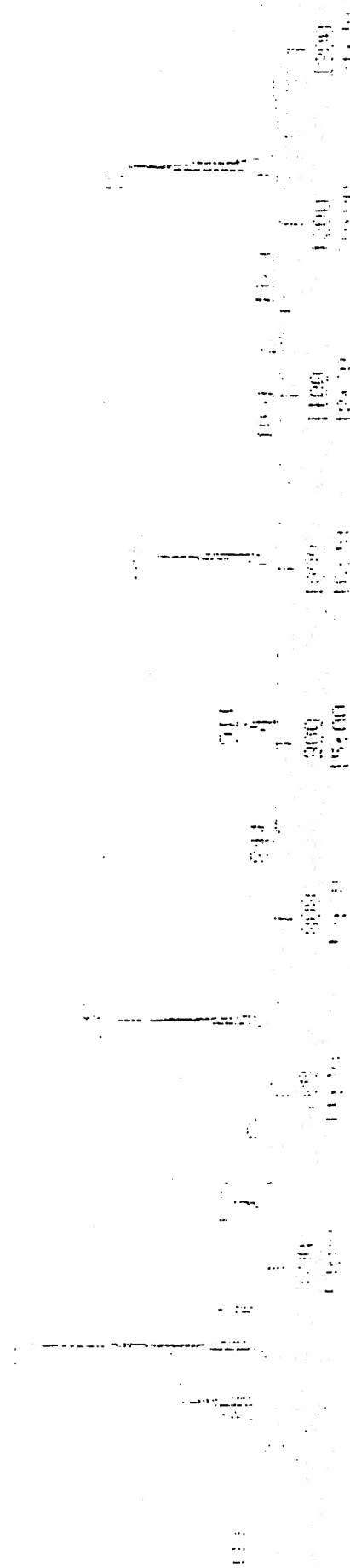
25765. 1.656 NG/UL 0.77

Nr	Det	Acro	(L)	Ratio	Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio
31	12.12		273						
32	12.12		200						
33	12.12		107	1.00	25.00	0.009	1.182	0.01	
34	12.12		110						
35	12.12		106						
36	12.12		205	1.00	25.00	0.008	1.504	0.01	
37	12.12		236						
38	12.12		177						
39	12.12		078						
40	12.12		032						
41	12.12		182	1.00	0.23	25.00	0.012	1.215	0.01
42	12.12		092						
43	12.12		296						
44	12.12		202						
45	12.12		000	1.00	1.01	25.00	0.001	2.067	0.00
46	12.12		200						
47	12.12		151						
48	12.12		272						
49	12.12		102	1.00	3.79	25.00	0.213	1.434	0.15
50	12.12		007	1.00	0.45	25.00	0.023	1.570	0.02
51	12.12		032	1.00	0.37	25.00	0.018	1.056	0.01
52	12.12		037	1.00	0.05	25.00	0.004	1.995	0.00
53	12.12		182	1.00	3.72	25.00	0.423	1.646	0.23

R10
 05/21/94 9:05:00
 DATA: B611903 #1
 CALI: B611903 #3
 SAMPLE: 8270.405119, 0-05.L, S, 9405119-020, 8, E, 30-1, 05/13 DE-2UL
 COND5.: CUP, 05205201, 06200F01, ., ., ., 40/4--300010, INST 01
 RUNGE: C 1.2310 LABEL: H 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

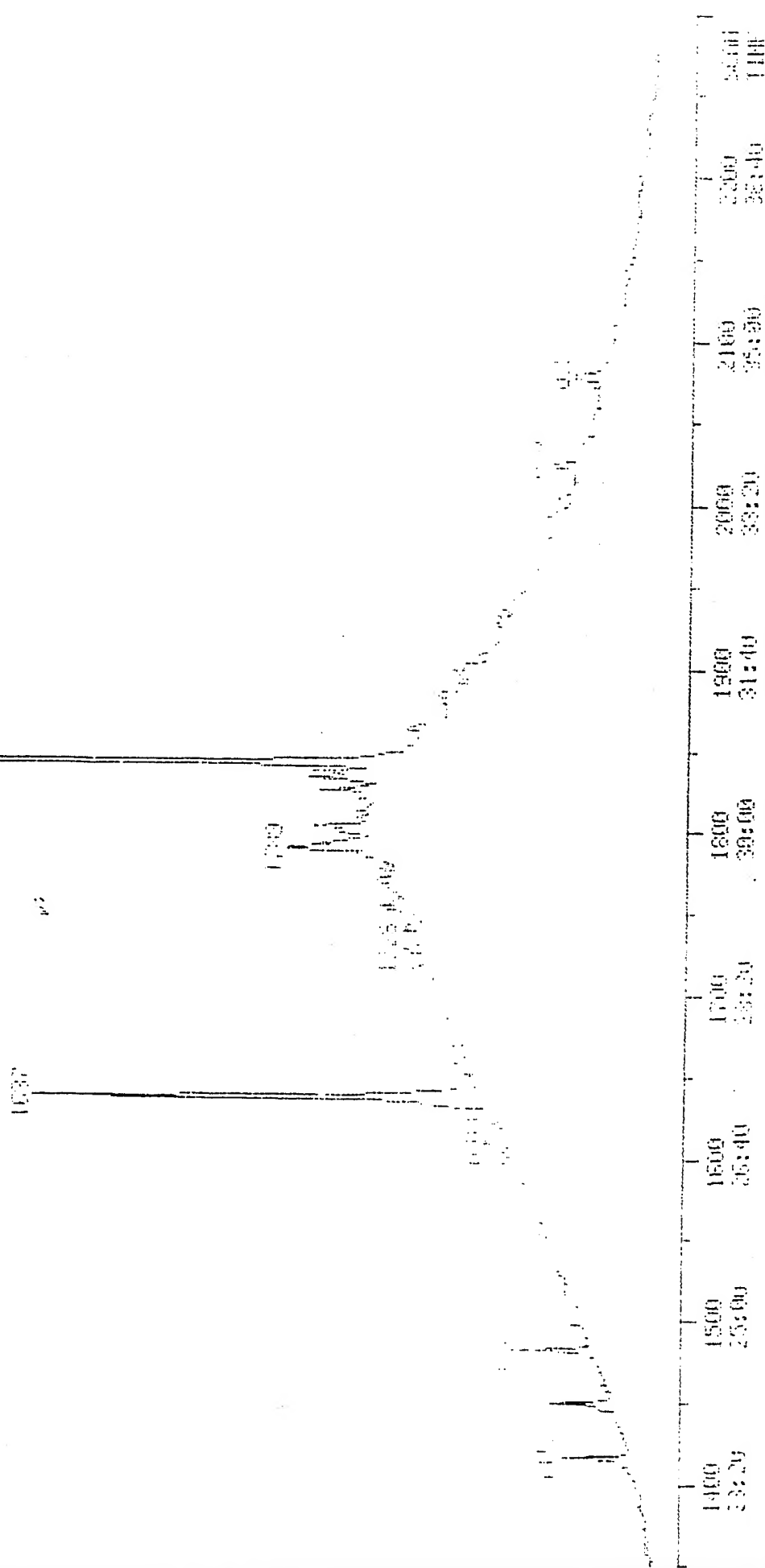
100.0

100



R1C
 06/21/94 0:06:00
 DATA: 0611903 #1 SCANS 1350 TO 2300
 CALL: 0611903 #3 OUT OF 400 TO 2300
 SAMPLE: 0.279, 405119, 0.05, L.S. 3406119-0.36, B.E. 30-1.06/13 DE-2UL
 COMDS.: CAP, 06205201, 062010FD1, 0.00, 40/4-300010, INST D1
 RUNGE: 0 1.2310 LABEL: H 0. 4.0 QUANT: A 0. 1.0 J 0 BASE: U 20. 3
 100.0

45.2500





Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-04

Operational Tech

SAMPLE ID: A-05 BH Int.2

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/13/94 18:37:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164s06.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 13-JUN-94 18:37

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 9406119-04B

Misc Info : 9406119-04B

Comment :

Method : /chem/j.i/j940613.b/jbna8.m

Meth Date : 13-Jun-1994 16:11 csadmin

Cal Date : 13-JUN-1994 14:28

Cal File: j164cc1.d

Als bottle: 9

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: WATER

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	REL RT	RESPONSE	ON-COLUMN	FINAL
						(ng)	(ug/L)
=====	----	==	=====	=====	=====	=====	
\$ 3 2-Fluorophenol	112.00	3.063	(0.737)	406542	110	55	
\$ 5 Phenol-d5	99.00	3.880	(0.934)	506871	110	56	
\$ 8 2-Chlorophenol-d4	132.00	3.979	(0.958)	466149	110	54	
* 11 1,4-Dichlorobenzene-d4	152.00	4.153	(1.000)	106791	40		
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.339	(0.586)	223939	77	39	
\$ 23 Nitrobenzene-d5	82.00	4.720	(0.864)	331748	73	36	
* 32 Naphthalene-d8	136.00	5.460	(1.000)	383119	40		
\$ 40 2-Fluorobiphenyl	172.00	6.658	(0.899)	615929	83	42	
* 48 Acenaphthene-d10	164.00	7.409	(1.000)	236338	40		
\$ 61 2,4,6-Tribromophenol	330.00	8.312	(0.919)	49351	38	19 (Q)	
* 65 Phenanthrene-d10	188.00	9.042	(1.000)	335545	40		
\$ 72 Terphenyl-d14	244.00	10.828	(0.886)	618773	79	33	
* 76 Chrysene-d12	240.00	12.225	(1.000)	228866	40		
* 83 Perylene-d12	264.00	14.747	(1.000)	226314	40		

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j164s06.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940613.b/jbna8.m
Misc Info: 9406119-04B

Calibration Date: 06/13/94
Calibration Time: 1428
Sample Type: WATER
Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	85780	42890	171560	106791	24.49
32 Naphthalene-d8	329103	164551	658206	383119	16.41
48 Acenaphthene-d10	208681	104340	417362	236338	13.25
65 Phenanthrene-d10	281650	140825	563300	335545	19.14
76 Chrysene-d12	142982	71491	285964	228866	60.07
83 Perylene-d12	150259	75129	300518	226314	50.62

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.15	3.65	4.65	4.15	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.46	-0.22
48 Acenaphthene-d10	7.42	6.92	7.92	7.41	-0.09
65 Phenanthrene-d10	9.06	8.56	9.56	9.04	-0.16
76 Chrysene-d12	12.24	11.74	12.74	12.22	-0.16
83 Perylene-d12	14.77	14.27	15.27	14.75	-0.14

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s10.d

Date : 17-JUN-1994 18:05

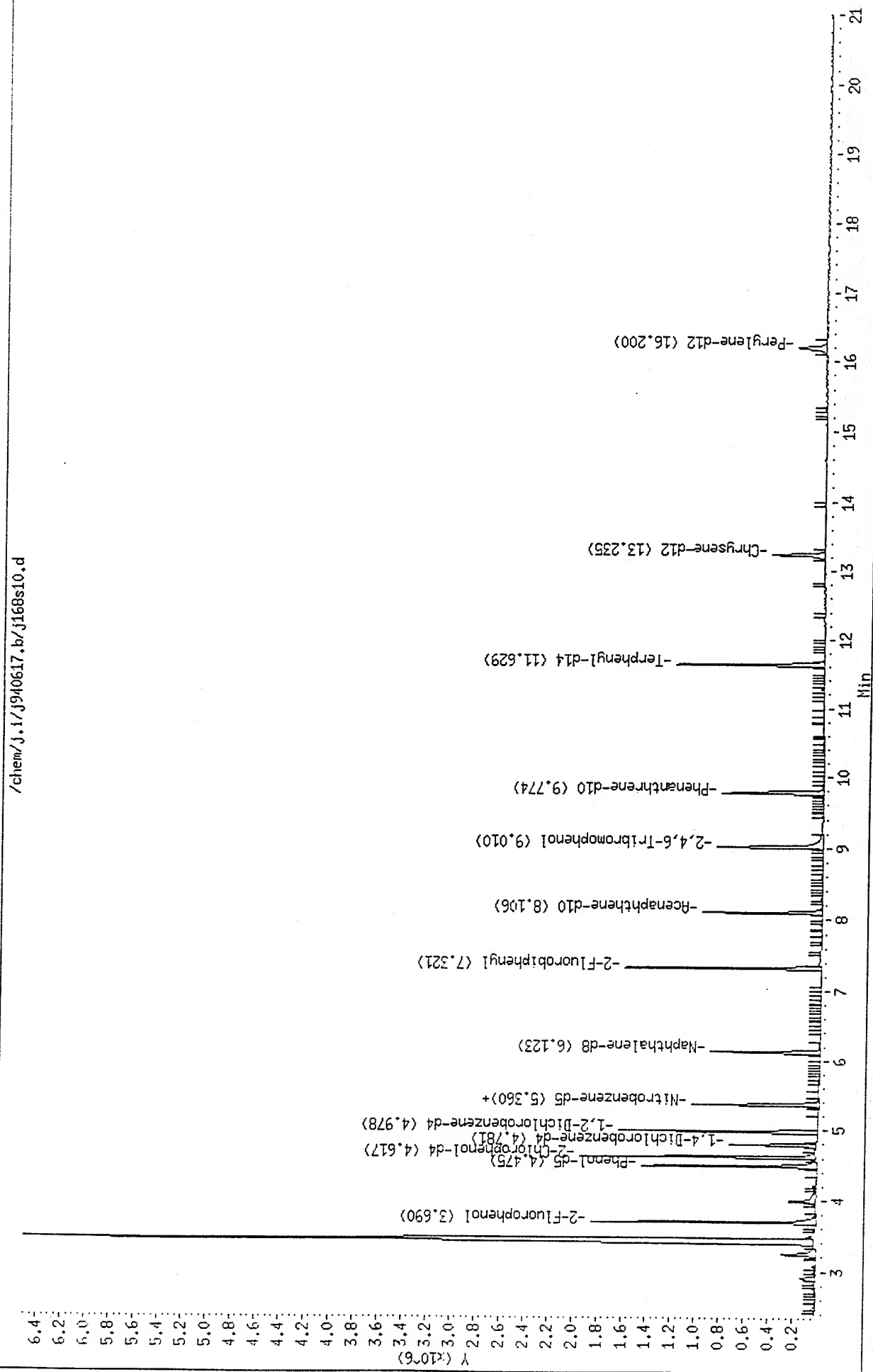
Instrument : j.i

Sample ID :

Column phase : J&W DB-5

Volume Injected (ul) : 2.0

Column diameter : 0.25



Data File: /chem/j.i/j940613.b/j164s06.d

Date : 13-JUN-94 18:37

Instrument : j.i

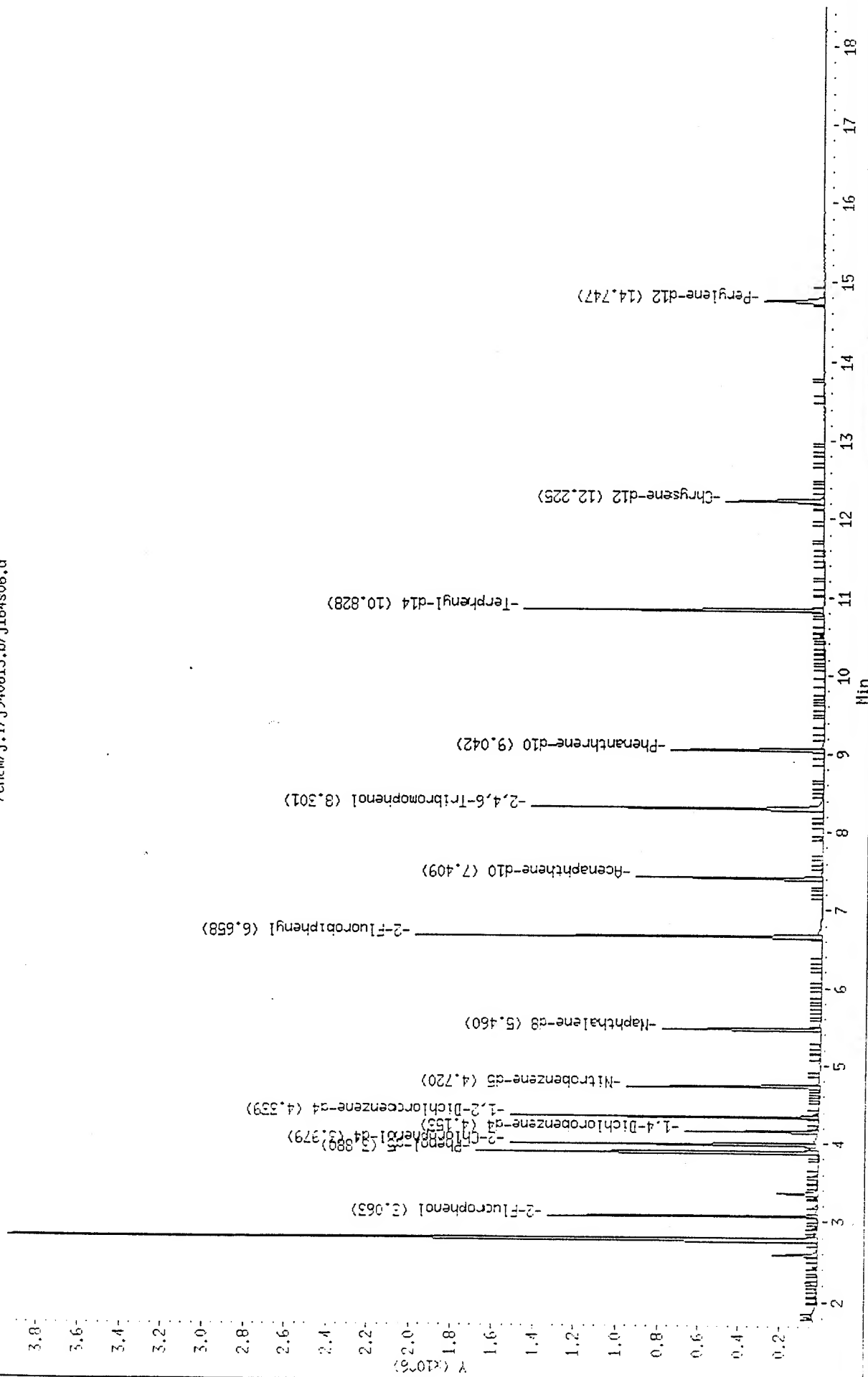
Sample ID :

Column phase : J&W DB-5

Volume Injected (ul) : 2.0

Column diameter : 0.25

/chem/j.i/j940613.b/j164s06.d





Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		UNITS
	RESULTS	PQL*	
Acenaphthene	ND	1600	µg/Kg
Acenaphthylene	ND	1600	µg/Kg
Aniline	ND	1600	µg/Kg
Anthracene	ND	1600	µg/Kg
Benzo(a)Anthracene	2200	1600	µg/Kg
Benzo(b)Fluoranthene	1700	1600	µg/Kg
Benzo(k)Fluoranthene	1800	1600	µg/Kg
Benzo(a)Pyrene	2100	1600	µg/Kg
Benzoic Acid	ND	8000	µg/Kg
Benzo(g,h,i)Perylene	ND	1600	µg/Kg
Benzyl alcohol	ND	1600	µg/Kg
4-Bromophenylphenyl ether	ND	1600	µg/Kg
Butylbenzylphthalate	ND	1600	µg/Kg
di-n-Butyl phthalate	ND	1600	µg/Kg
Carbazole	ND	1600	µg/Kg
4-Chloroaniline	ND	1600	µg/Kg
bis(2-Chloroethoxy)Methane	ND	1600	µg/Kg
bis(2-Chloroethyl)Ether	ND	1600	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	1600	µg/Kg
4-Chloro-3-Methylphenol	ND	1600	µg/Kg
2-Chloronaphthalene	ND	1600	µg/Kg
2-Chlorophenol	ND	1600	µg/Kg
4-Chlorophenylphenyl ether	ND	1600	µg/Kg
Chrysene	1800	1600	µg/Kg
Dibenz(a,h)Anthracene	ND	1600	µg/Kg
Dibenzofuran	ND	1600	µg/Kg
1,2-Dichlorobenzene	ND	1600	µg/Kg
1,3-Dichlorobenzene	ND	1600	µg/Kg
1,4-Dichlorobenzene	ND	1600	µg/Kg
3,3'-Dichlorobenzidine	ND	1600	µg/Kg
2,4-Dichlorophenol	ND	1600	µg/Kg
Diethylphthalate	ND	1600	µg/Kg
2,4-Dimethylphenol	ND	1600	µg/Kg
Dimethyl Phthalate	ND	1600	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	4000	µg/Kg
2,4-Dinitrophenol	ND	4000	µg/Kg
2,4-Dinitrotoluene	ND	1600	µg/Kg
2,6-Dinitrotoluene	ND	1600	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-05

Operational Tech

SAMPLE ID: A-06 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	1600	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	1600	µg/Kg
Fluoranthene	4000	1600	µg/Kg
Fluorene	ND	1600	µg/Kg
Hexachlorobenzene	ND	1600	µg/Kg
Hexachlorobutadiene	ND	1600	µg/Kg
Hexachloroethane	ND	1600	µg/Kg
Hexachlorocyclopentadiene	ND	1600	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	1600	µg/Kg
Isophorone	ND	1600	µg/Kg
2-Methylnaphthalene	ND	1600	µg/Kg
2-Methylphenol	ND	1600	µg/Kg
4-Methylphenol	ND	1600	µg/Kg
Naphthalene	ND	1600	µg/Kg
2-Nitroaniline	ND	4000	µg/Kg
3-Nitroaniline	ND	4000	µg/Kg
4-Nitroaniline	ND	4000	µg/Kg
Nitrobenzene	ND	1600	µg/Kg
2-Nitrophenol	ND	1600	µg/Kg
4-Nitrophenol	ND	4000	µg/Kg
N-Nitrosodiphenylamine (1)	ND	1600	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	1600	µg/Kg
Di-n-Octyl Phthalate	ND	1600	µg/Kg
Pentachlorophenol	ND	4000	µg/Kg
Phenanthrene	ND	1600	µg/Kg
Phenol	ND	1600	µg/Kg
Pyrene	2500	1600	µg/Kg
Pyridine	ND	1600	µg/Kg
1,2,4-Trichlorobenzene	ND	1600	µg/Kg
2,4,5-Trichlorophenol	ND	4000	µg/Kg
2,4,6-Trichlorophenol	ND	1600	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 19:27:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s13.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 17-JUN-1994 19:27

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 9406119-05B 5X

Misc Info : 9406119-05B 5X

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Cal File: j168cc1.d

Als bottle: 20

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT	SIG	CONCENTRATIONS					
			MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
-----	----		----	--	-----	-----	-----	-----
\$ 3 2-Fluorophenol	112.00		3.683	(0.768)	86520	17		290 (a)
\$ 5 Phenol-d5	99.00		4.478	(0.934)	123273	19		320 (a)
\$ 8 2-Chlorophenol-d4	132.00		4.620	(0.964)	105717	18		310 (a)
* 11 1,4-Dichlorobenzene-d4	152.00		4.795	(1.000)	135233	40		
\$ 13 1,2-Dichlorobenzene-d4	152.00		4.980	(0.614)	46858	11		190 (a)
\$ 23 Nitrobenzene-d5	82.00		5.362	(0.876)	77632	13		210 (a)
* 32 Naphthalene-d8	136.00		6.124	(1.000)	501243	40		
\$ 40 2-Fluorobiphenyl	172.00		7.332	(0.905)	161383	16		270 (a)
* 48 Acenaphthene-d10	164.00		8.105	(1.000)	306012	40		
\$ 61 2,4,6-Tribromophenol	330.00		9.020	(0.923)	8890	7		120 (aQ)
* 65 Phenanthrene-d10	198.00		9.773	(1.000)	374400	40		
70 Fluoranthene	202.00		11.186	(1.145)	465803	48 ✓		810
71 Pyrene	202.00		11.471	(0.866)	393555	31 ✓		520
\$ 72 Terphenyl-d14	244.00		11.625	(0.878)	97729	13		210 (a)
75 Benzo[a]anthracene	226.00		13.211	(0.997)	214596	26 ✓		430
* 76 Chrysene-d12	240.00		13.244	(1.000)	226260	40		
78 Chrysene	228.00		13.277	(1.002)	175508	22 ✓		360
90 Benzo[b]fluoranthene	252.00		15.327	(0.946)	211817	20 ✓		340 (M)
81 Benzo[k]fluoranthene	252.00		15.338	(0.946)	205519	21 ✓		350 (M)
82 Benzo[a]pyrene	252.00		16.066	(0.991)	222875	25 ✓		420
* 83 Perylene-d12	264.00		16.210	(1.000)	288701	40		
84 Indeno(1,2,3-cd)pyrene	276.00		19.420	(1.198)	160730	15		250 (a)
96 Benzo[g,h,i]perylene	276.00		20.389	(1.258)	141553	15		260 (a)

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

Data File: /chem/j.i/j940617.b/j168s13.d
Report Date: 20-Jun-1994 08:52

Page 2

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/.../j940617.5/j168s13.d

Date : 17-JUN-1994 19:27

Page 5

Instrument : j.1

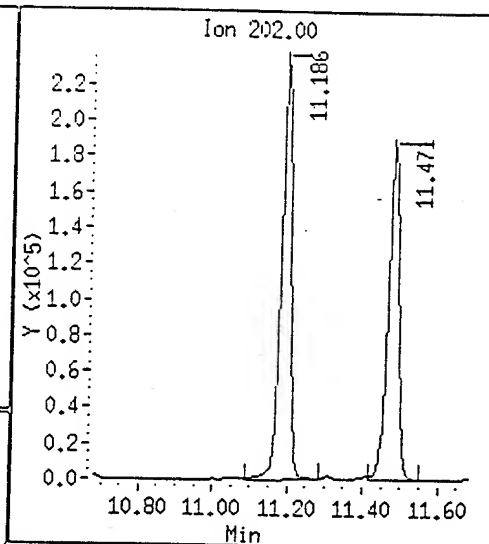
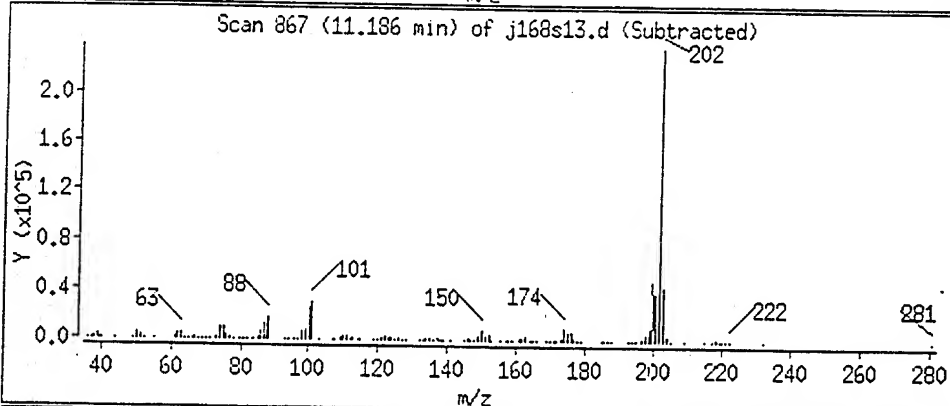
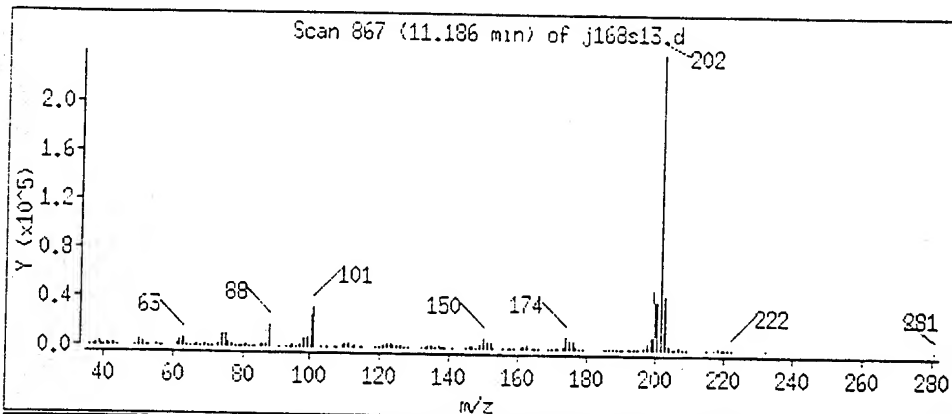
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (μL) : 2.0

70 Fluoranthene



Data File: /chem/j17/j940617.b/j168s13.d

Page 6

Date : 17-JUN-1994 19:27

Instrument : j.i

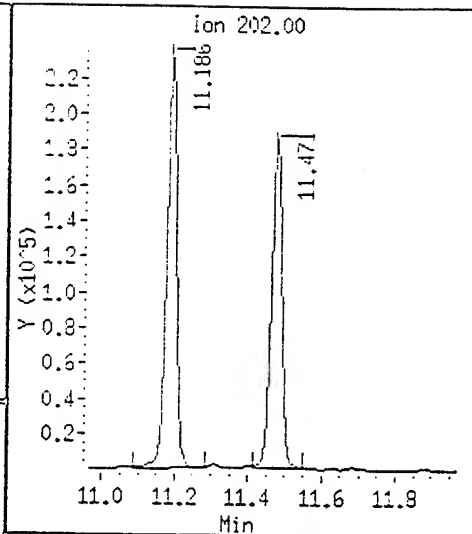
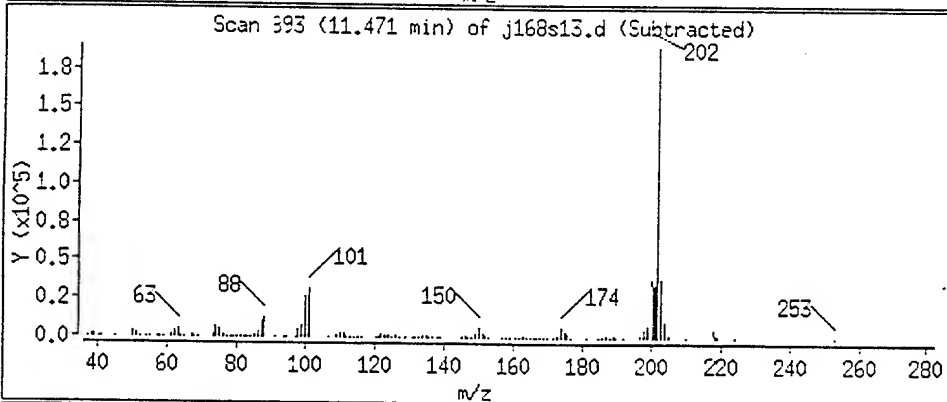
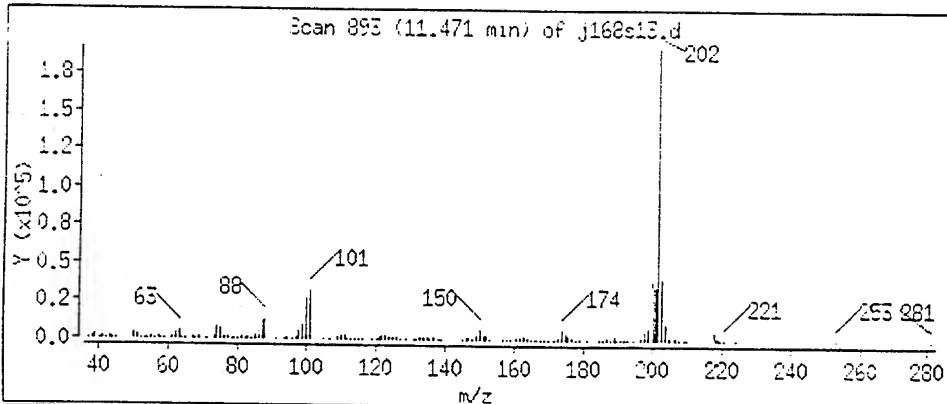
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.32

Volume Injected (µl) : 2.0

71 Pyrene



Data File: /chem/j.1/j940617.5/j168s13.d

Page 7

Date : 17-JUN-1994 19:27

Instrument : J.1

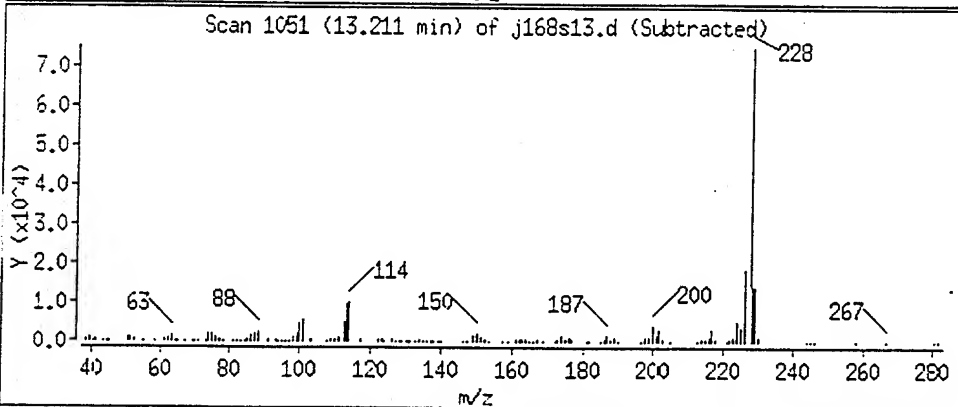
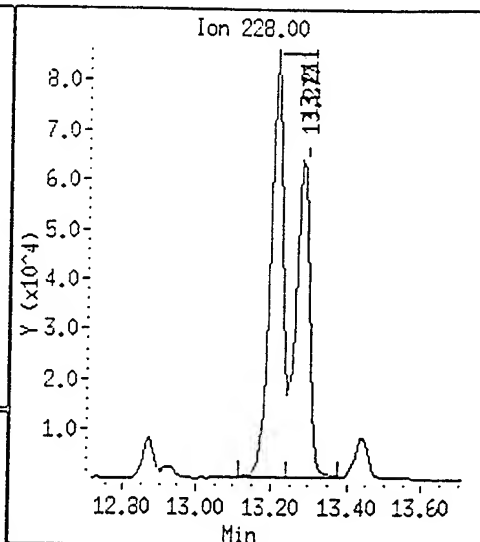
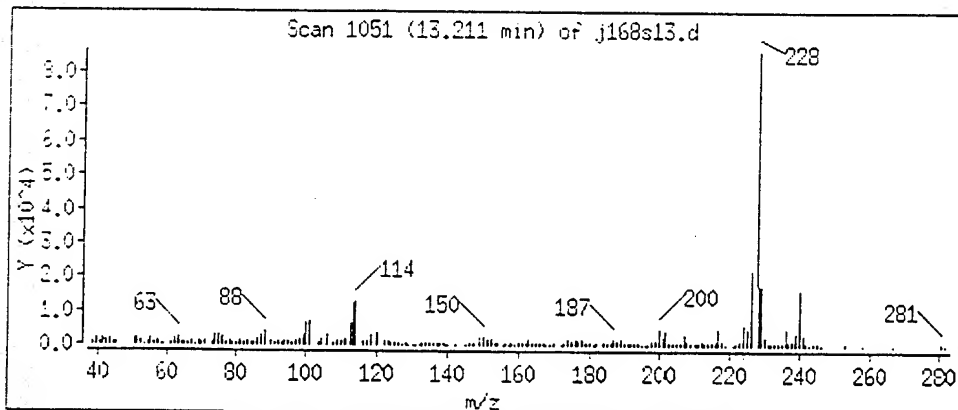
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

75 Benzo[a]anthracene



Data File: /chem/j.1/j940617.b/j168s13.d

Page 8

Date: 17-JUN-1994 19:27

Instrument: j.1

Sample ID:

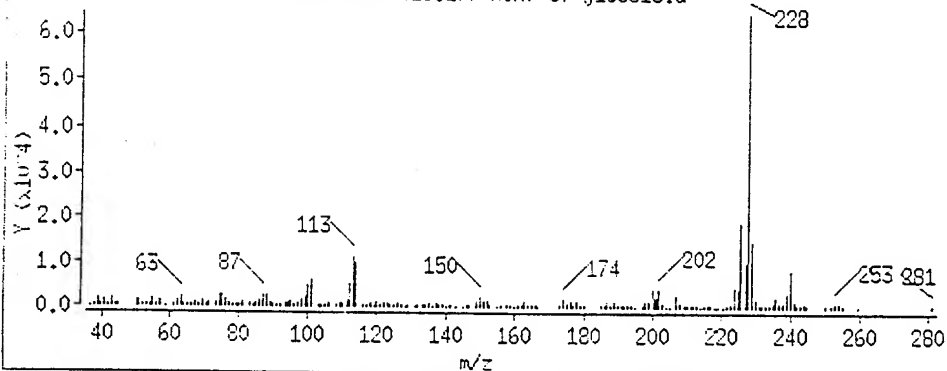
Column phase: J&W DB-5

Column diameter: 0.25

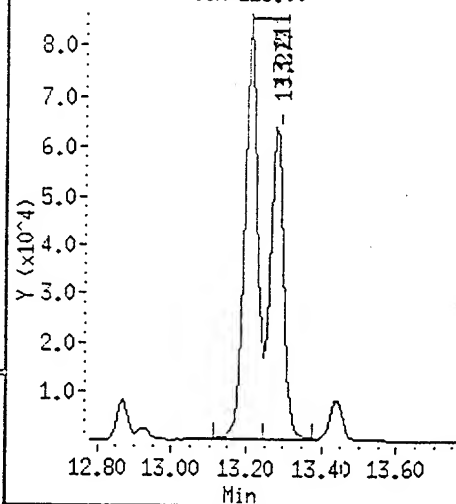
Volume Injected (uL): 2.0

78 Chrysene

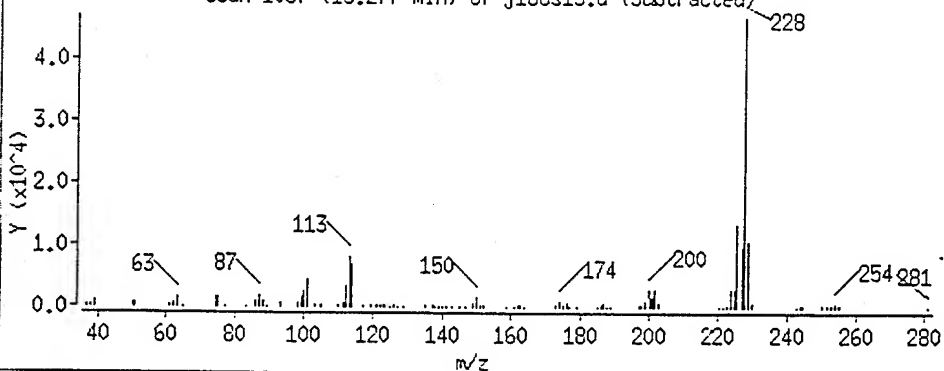
Scan 1057 (13.277 min) of j168s13.d



Ion 228.00



Scan 1057 (13.277 min) of j168s13.d (Subtracted)



Data File: /chem/j.1/j940617.b/j168s13.d

Page 9

Date : 17-JUN-1994 19:27

Instrument : j.i

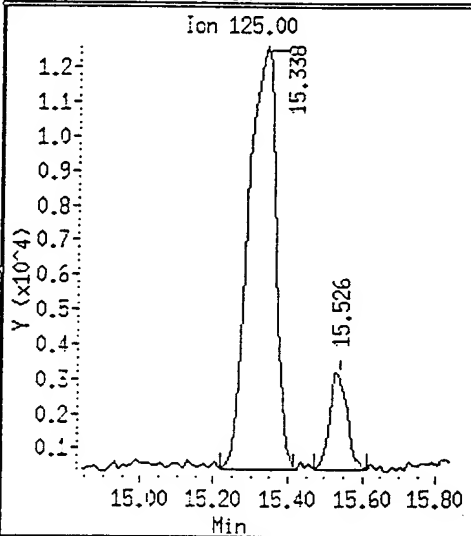
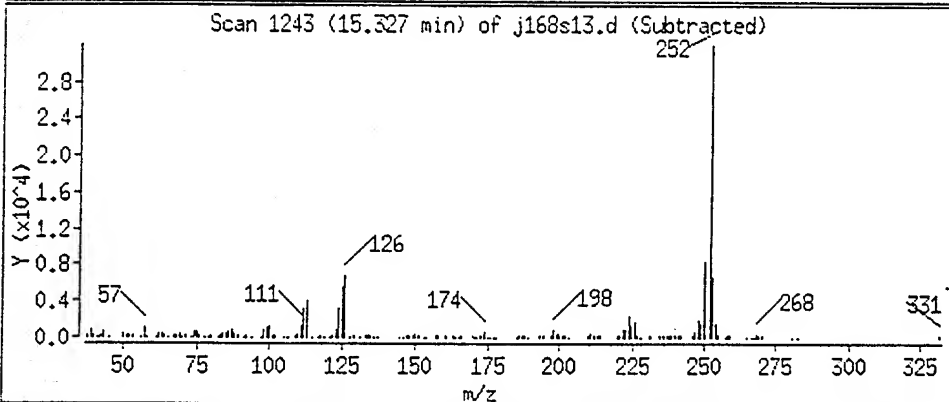
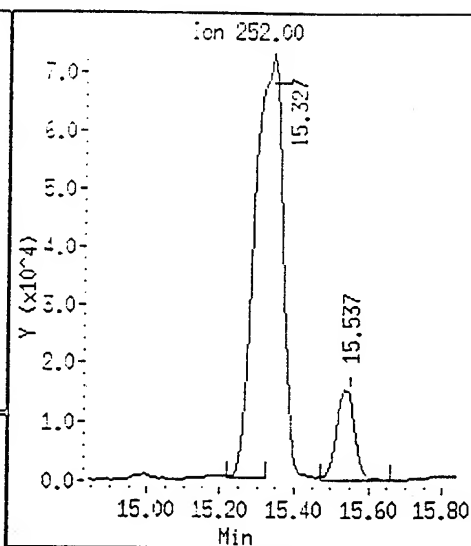
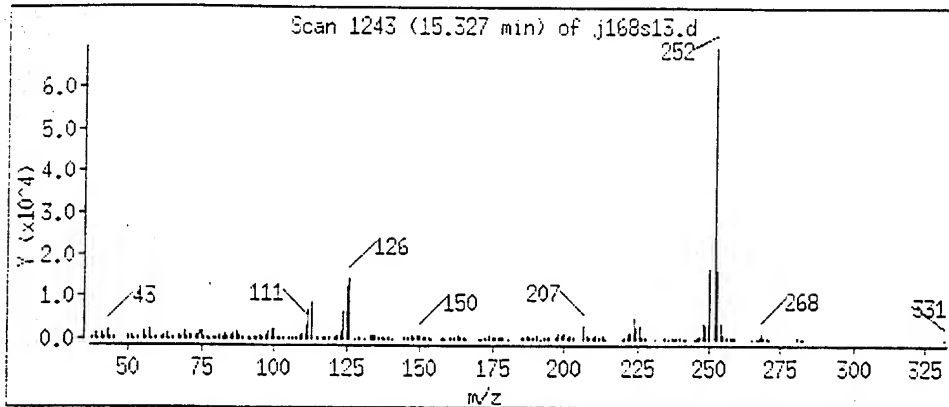
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

80 Benzo[b]fluoranthene



Date: 17-JUN-1994 19:27

Instrument: j.i

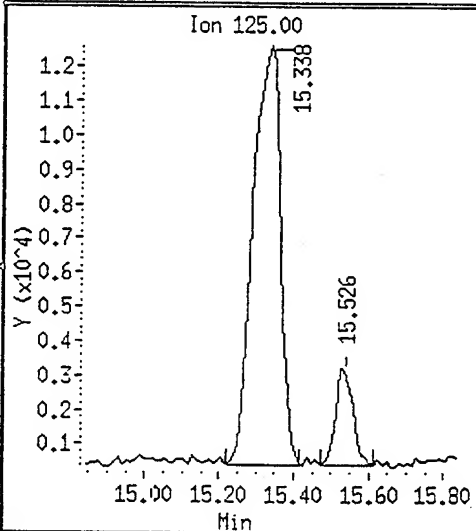
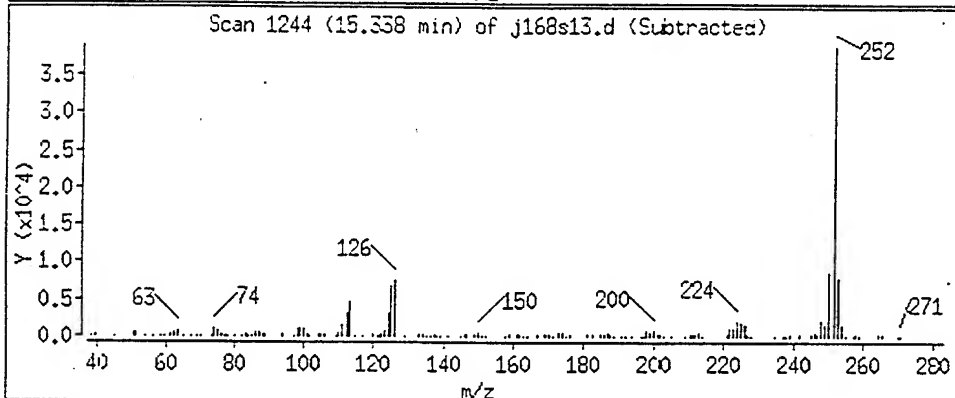
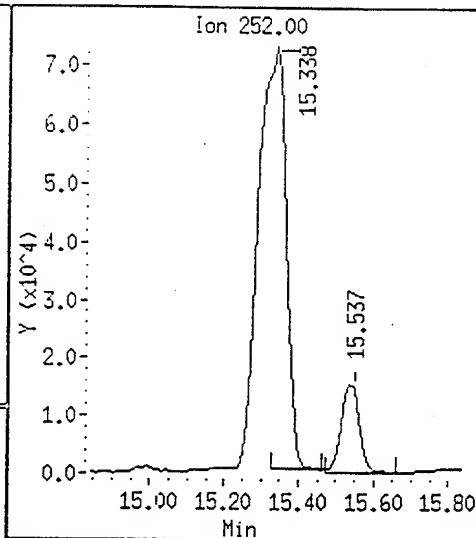
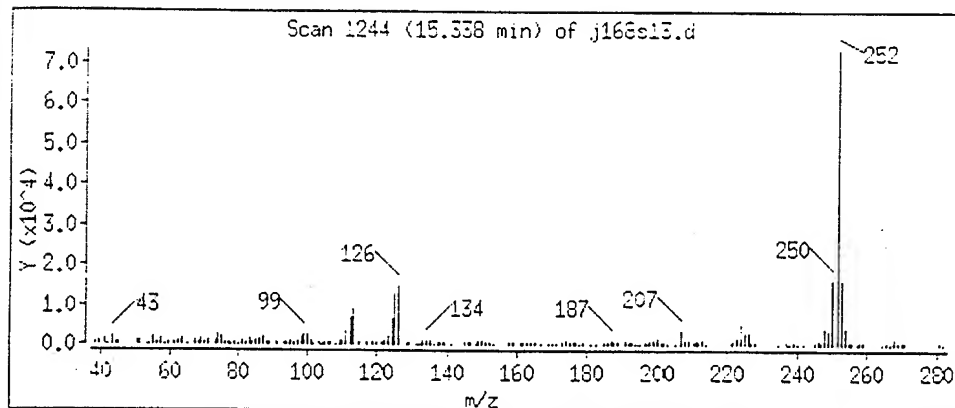
Sample ID:

Column phase: J&W DB-5

Column diameter: 0.25

Volume Injected (uL): 2.0

81 Benzo[k]fluoranthene



Date : 17-JUN-1994 19:27

Instrument : J.1

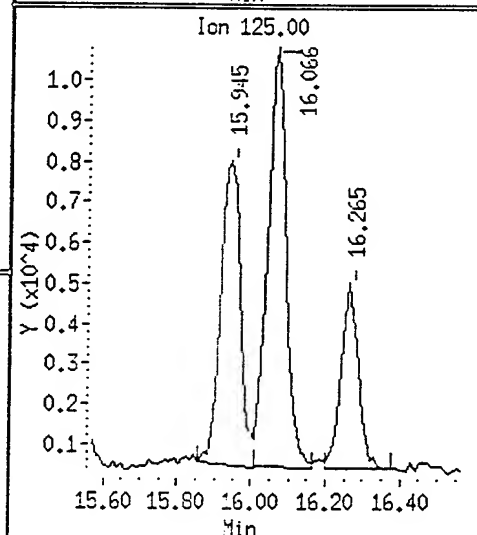
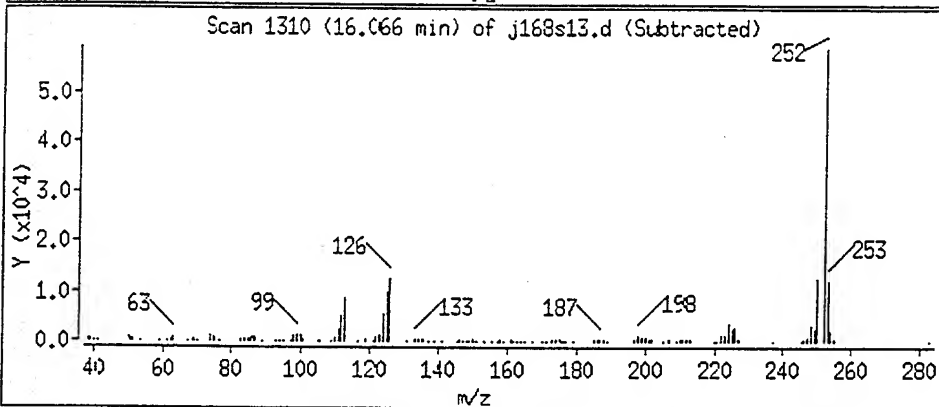
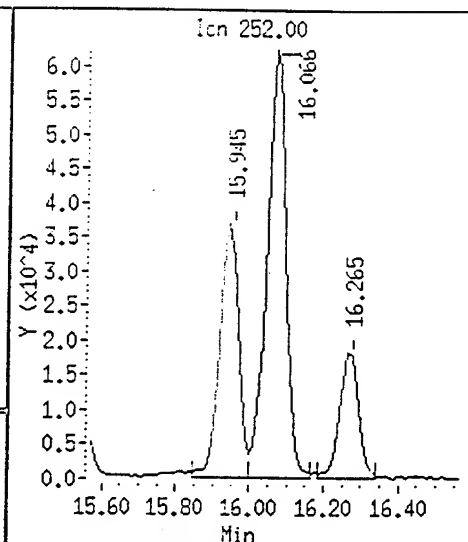
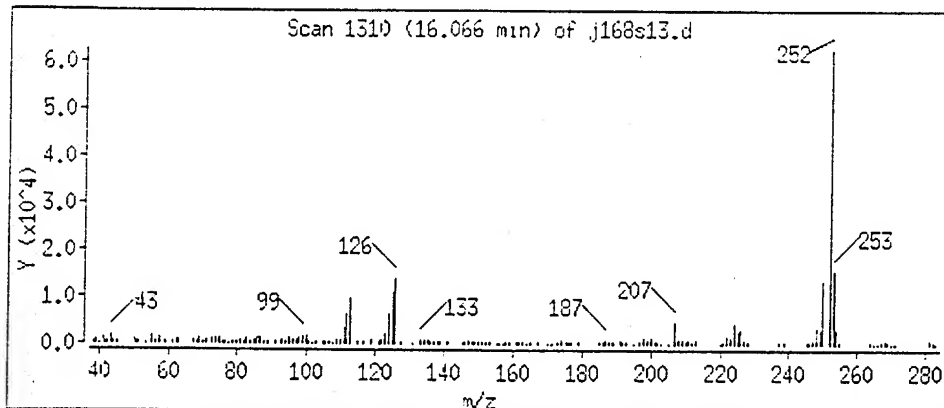
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

82 Benzo[a]pyrene



Date : 17-JUN-1994 19:27

Instrument : j.i

Sample ID :

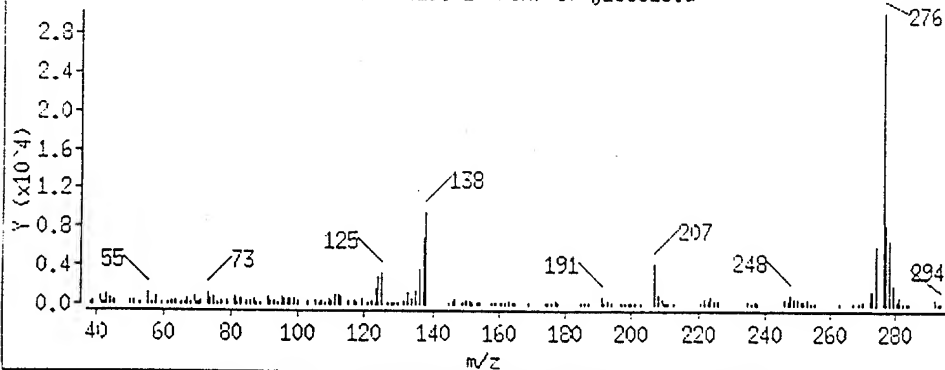
Column phase : J&W DB-5

Column diameter : 0.25

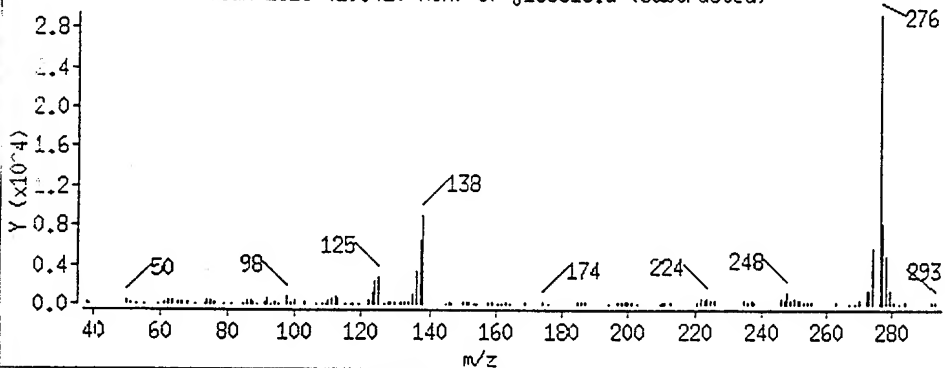
Volume injected (uL) : 2.0

34 Indeno[1,2,3-cd]pyrene

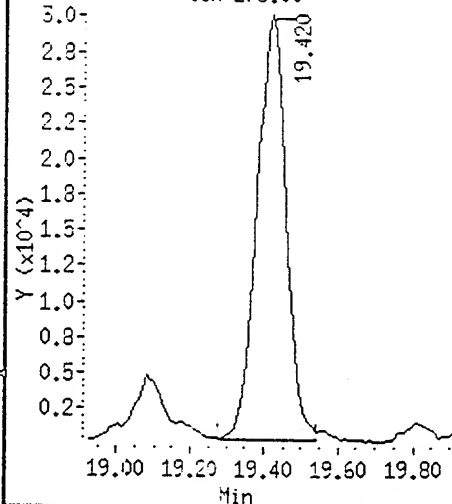
Scan 1615 (19.420 min) of j168s13.d



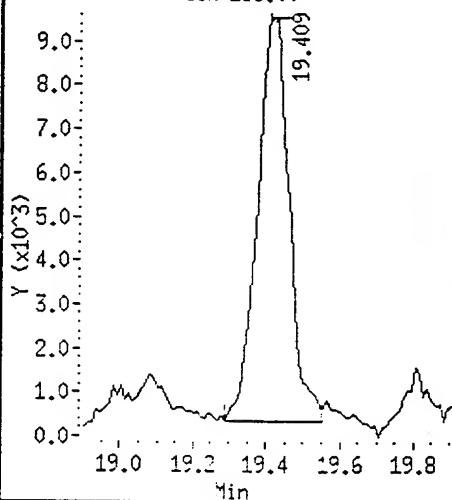
Scan 1615 (19.420 min) of j168s13.d (Subtracted)



Ion 276.00



Ion 138.00



Date : 17-JUN-1994 19:27

Instrument : J.1

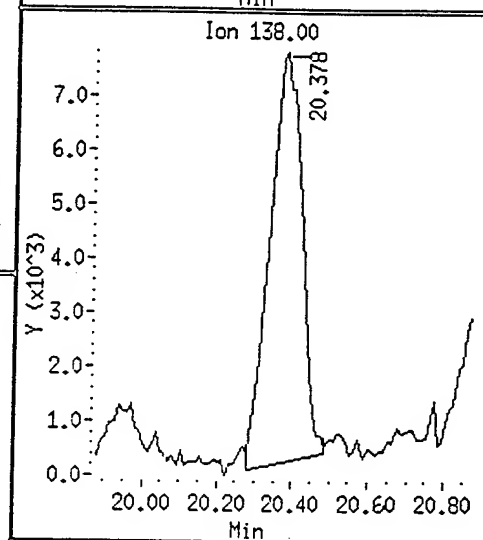
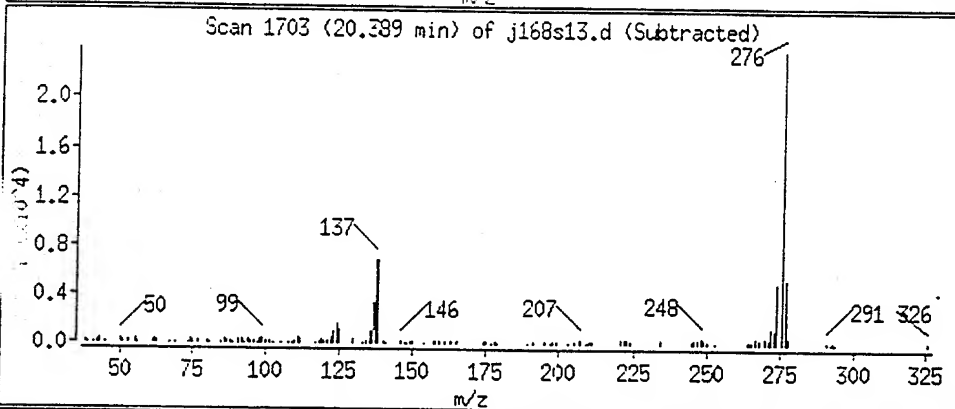
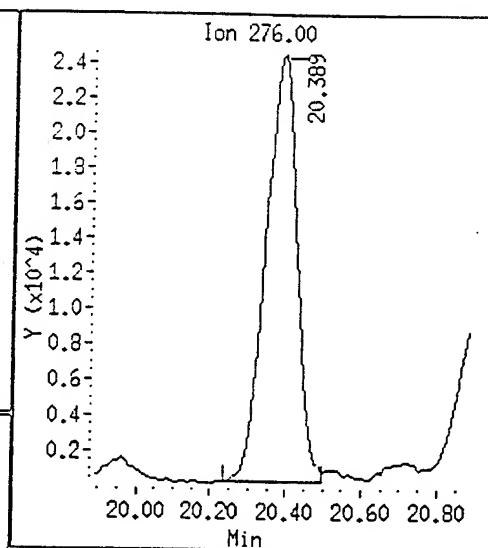
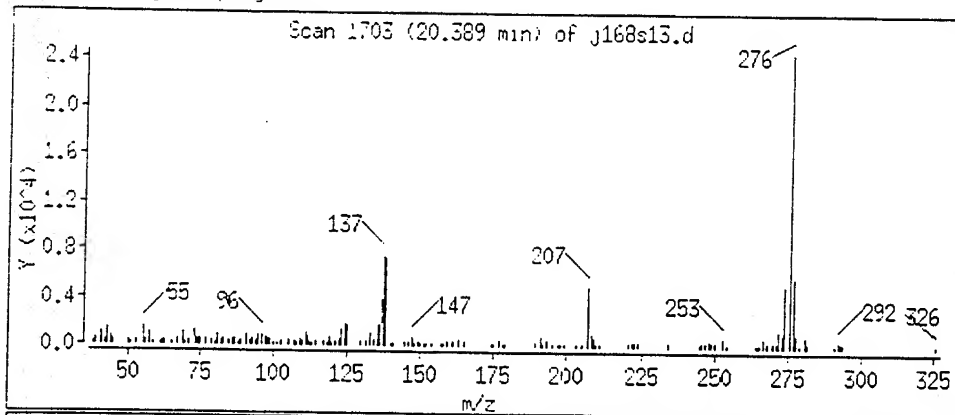
Sample ID :

Column phase : J&W DB-5

Column diameter : 0.25

Volume Injected (uL) : 2.0

96 Benzo[g,h,i]perylene



SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s13.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-05B 5X

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	121206	60603	242412	135233	11.57
32 Naphthalene-d8	445390	222695	890780	501243	12.54
48 Acenaphthene-d10	275750	137875	551500	306012	10.97
65 Phenanthrene-d10	336972	168486	673944	374400	11.11
76 Chrysene-d12	146532	73266	293064	226260	54.41
83 Perylene-d12	160474	80237	320948	288701	79.91

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.13
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.17
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.16
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.09
83 Perylene-d12	16.21	15.71	16.71	16.21	0.01

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

Instrument : j.i

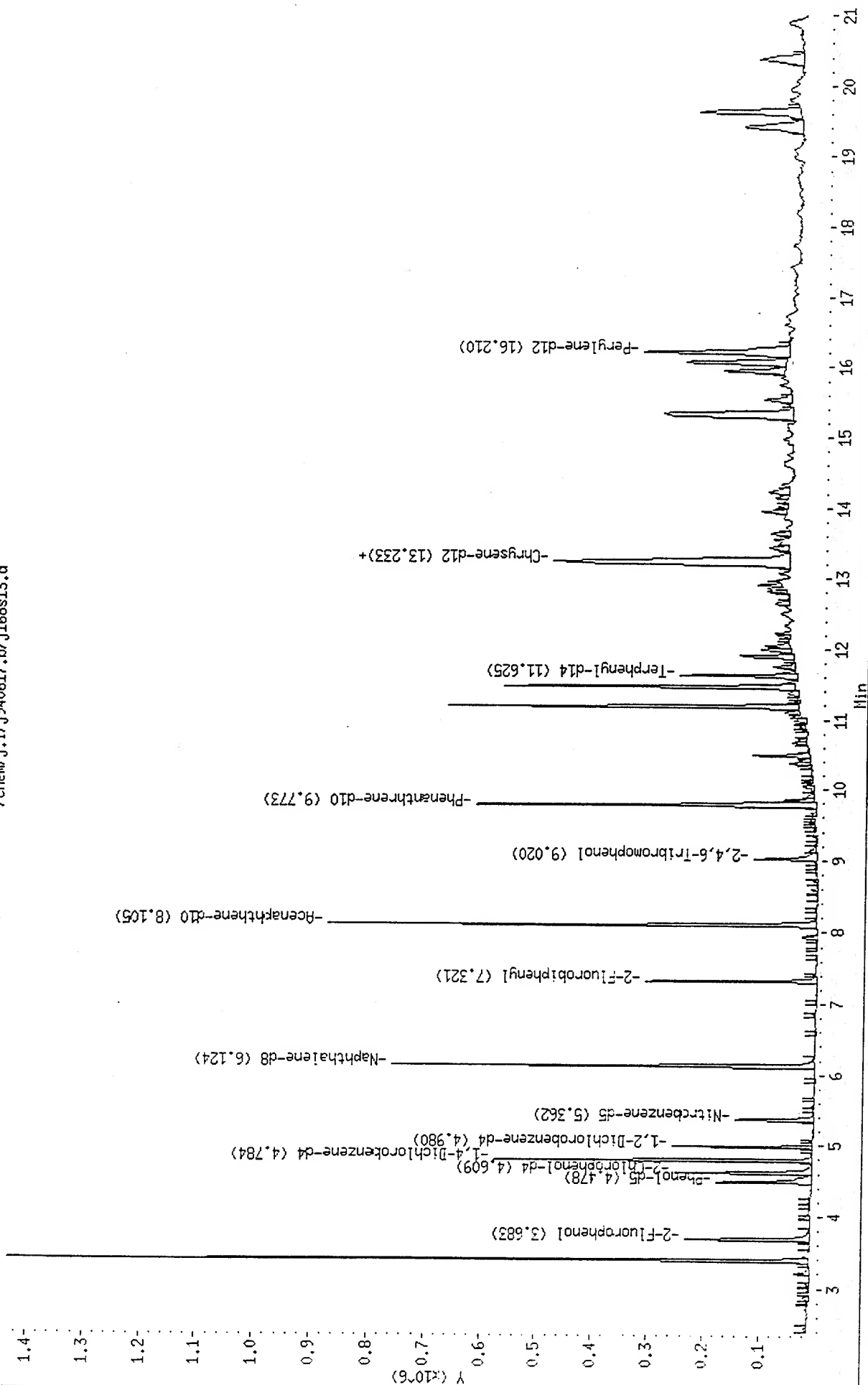
Sample ID :

Column phase : J&W DB-5

Volume Injected (ul) : 2.0

Column diameter : 0.25

/chem/j.i./j940617.b/j168s13.d





Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-08

Operational Tech

SAMPLE ID: A-07 BH Int.2

ANALYTICAL DATA (continued)			
PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 18:05:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-06

Operational Tech

SAMPLE ID: A-06 BH Int.2

ANALYTICAL DATA (continued)			
PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 19:00:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s12.d

Lab. Id. :

Inj Date : 17-JUN-94 19:00

Operator : LH

Smp Info : 9406119-06B

Misc Info : 9406119-06B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Als bottle: 19

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng) (ug/Kg)
=====	=====	=====	=====	=====	=====	=====
\$ 3 2-Fluorophenol		112.00	3.690	(0.772)	645315	100 1700
\$ 5 Phenol-d5		99.00	4.475	(0.936)	791535	98 1600
\$ 8 2-Chlorophenol-d4		132.00	4.617	(0.966)	704432	99 1600
* 11 1,4-Dichlorobenzene-d4		152.00	4.781	(1.000)	168542	40
\$ 13 1,2-Dichlorobenzene-d4		152.00	4.978	(0.614)	321042	66 1100
21 N-Nitroso-di-n-propylamine		70.00	5.360	(1.121)	81383	18 300(aQ)
\$ 23 Nitrobenzene-d5		82.00	5.360	(0.875)	533912	74 1200
* 32 Naphthalene-d8		136.00	6.123	(1.000)	591088	40
\$ 40 2-Fluorobiphenyl		172.00	7.332	(0.904)	904788	78 1300
* 48 Acenaphthene-d10		164.00	8.106	(1.000)	362652	40
54 Diethylphthalate		149.00	8.596	(1.060)	45899	3 54(a)
\$ 61 2,4,6-Tribromophenol		330.00	9.022	(0.923)	86308	53 890(Q)
* 65 Phenanthrene-d10		198.00	9.775	(1.000)	499161	40
\$ 72 Terphenyl-d14		244.00	11.633	(0.878)	712194	71 1200
* 76 Chrysene-d12		240.00	13.242	(1.000)	291675	40
* 83 Perylene-d12		264.00	16.199	(1.000)	264157	40

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s12.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-06B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	168542	39.05
32 Naphthalene-d8	445390	222695	890780	591088	32.71
48 Acenaphthene-d10	275750	137875	551500	362652	31.51
65 Phenanthrene-d10	336972	168486	673944	499161	48.13
76 Chrysene-d12	146532	73266	293064	291675	99.05
83 Perylene-d12	160474	80237	320948	264157	64.61

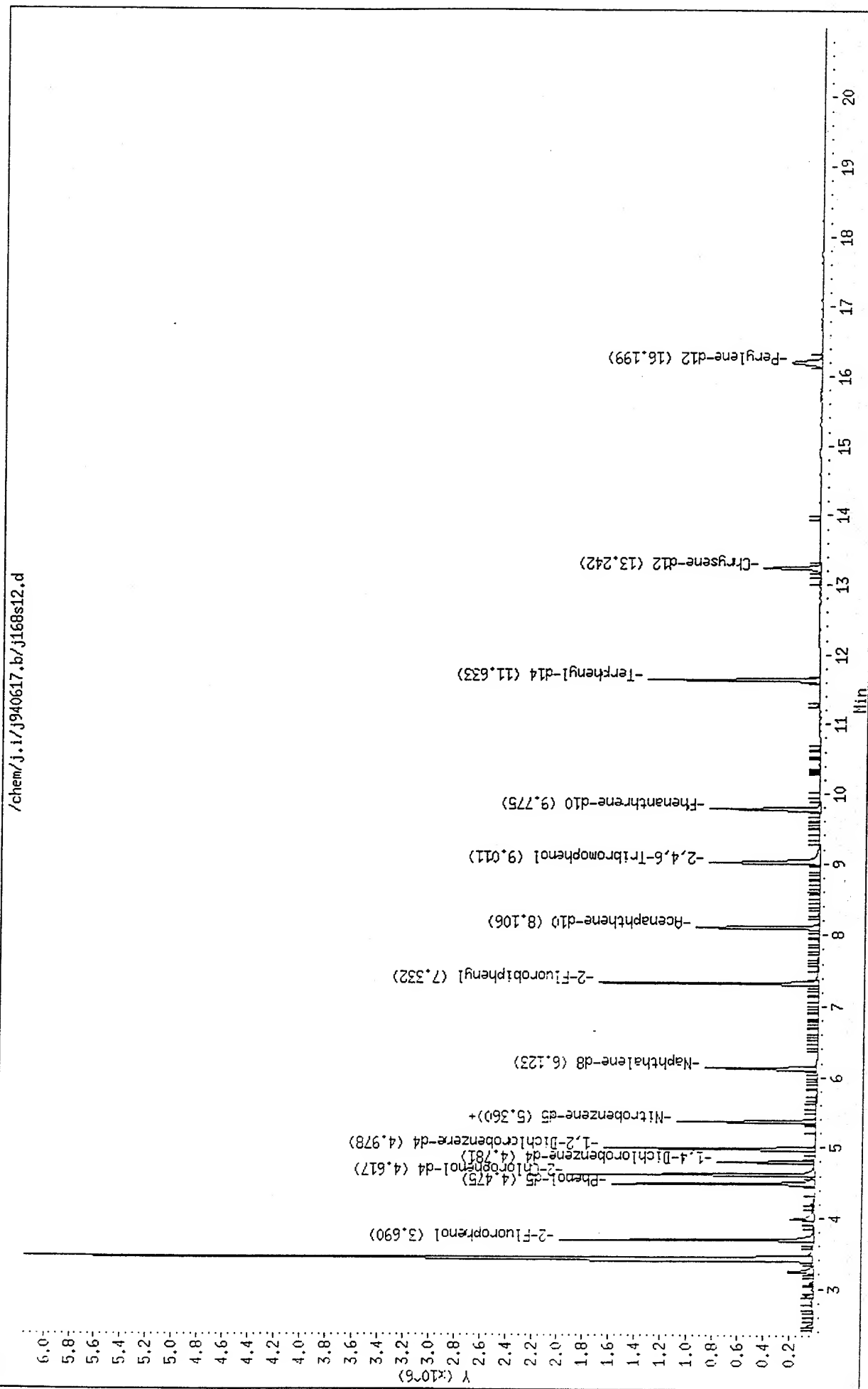
COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.41
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.19
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.22
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.14
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.10
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s12.d
 Date : 17-JUN-1994 19:00
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Page 1

Column diameter : 0.25





Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)



Certificate of Analysis No. 9406119-07

Operational Tech

SAMPLE ID: A-07 BH Int.1

PARAMETER	ANALYTICAL DATA (continued)		UNITS
	RESULTS	PQL*	
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl) Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd) Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH

DATE/TIME: 06/17/94 18:32:00

EXTRACTED BY: LJ

DATE/TIME: 06/08/94

METHOD: 8270, Semivolatile Organics - Soil

NOTES: * - Practical Quantitation Limit

ND - Not Detected

NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s11.d

Lab. Id. :

Inj Date : 17-JUN-94 18:32

Operator : LH

Smp Info : 9406119-07B

Misc Info : 9406119-07B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Als bottle: 18

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng)	FINAL (ug/Kg)
-----	----	==	-----	-----	-----	-----
S 3 2-Fluorophenol	112.00	3.687	(0.770)	519751	110	1800
S 5 Phenol-d5	99.00	4.484	(0.936)	628606	99	1600
S 8 2-Chlorophenol-d4	132.00	4.615	(0.963)	563723	100	1700
* 11 1,4-Dichlorobenzene-d4	152.00	4.790	(1.000)	132160	40	
S 13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	251687	62	1000
21 N-Nitroso-di-n-propylamine	70.00	5.368	(1.121)	64661	18	300(aQ)
S 23 Nitrobenzene-d5	82.00	5.368	(0.877)	420513	70	1200
* 32 Naphthalene-d8	136.00	6.121	(1.000)	488982	40	
S 40 2-Fluorobiphenyl	172.00	7.331	(0.904)	745484	77	1300
* 48 Acenaphthene-d10	164.00	8.106	(1.000)	301565	40	
S 61 2,4,6-Tribromophenol	330.00	9.022	(0.923)	84570	65	1100(Q)
* 65 Phenanthrene-d10	188.00	9.777	(1.000)	400045	40	
66 Phenanthrene	178.00	9.799	(1.002)	53477	4	54(a)
67 Anthracene	178.00	9.799	(1.002)	53477	4	66(a)
70 Fluoranthene	202.00	11.190	(1.145)	80374	8	130(a)
71 Pyrene	202.00	11.476	(0.967)	64511	5	77(a)
S 72 Terphenyl-d14	244.00	11.630	(0.879)	555091	65	1100
75 Benzo(a)anthracene	228.00	13.282	(1.003)	32081	3	58(a)
* 76 Chrysene-d12	240.00	13.238	(1.000)	249577	40	
78 Chrysene	228.00	13.282	(1.003)	32081	4	50(a)
80 Benzo(b)fluoranthene	252.00	15.310	(0.945)	59518	5	90(a)
81 Benzo(k)fluoranthene	252.00	15.310	(0.945)	59518	5	97(a)
82 Benzo(a)pyrene	252.00	16.049	(0.990)	30667	3	54(a)
* 83 Perylene-d12	264.00	16.203	(1.000)	304315	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/j.i/j940617.b/j168s11.d
Report Date: 17-Jun-1994 13:57

Page 2

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s11.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-07B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

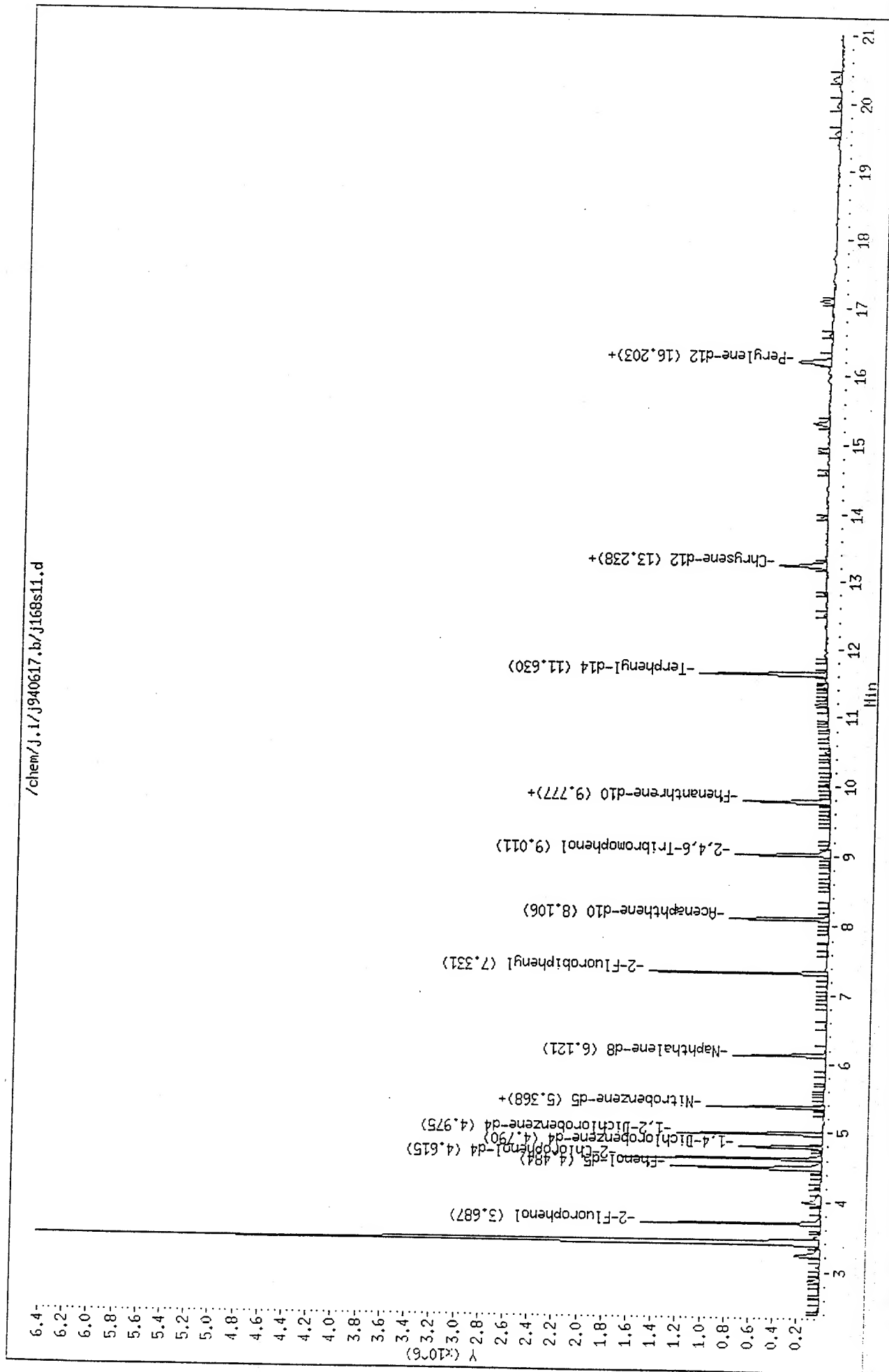
COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	132160	9.04
32 Naphthalene-d8	445390	222695	890780	488982	9.79
48 Acenaphthene-d10	275750	137875	551500	301565	9.36
65 Phenanthrene-d10	336972	168486	673944	400045	18.72
76 Chrysene-d12	146532	73266	293064	249577	70.32
83 Perylene-d12	160474	80237	320948	304315	89.64

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.23
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.22
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.12
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.14
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168s11.d
 Date : 17-JUN-1994 18:32
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (ul) : 2.0

Column diameter : 0.25





Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s10.d

Lab. Id. :

Inj Date : 17-JUN-94 18:05

Operator : LH

Smp Info : 9406119-08B

Misc Info : 9406119-08B

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 17-Jun-1994 14:44 liping

Cal Date : 17-JUN-1994 09:39

Als bottle: 17

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: SOIL

Quant Type: ISTD

Autotune Date: {

Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng) FINAL (ug/Kg)
=====	----		==	-----	-----	-----
\$ 3 2-Fluorophenol		112.00	3.690	(0.770)	622928	100 1700
\$ 5 Phenol-d5		99.00	4.475	(0.934)	750532	98 1600
\$ 8 2-Chlorophenol-d4		132.00	4.617	(0.964)	658175	97 1500
* 11 1,4-Dichlorobenzene-d4		152.00	4.792	(1.000)	160592	40
* 13 1,2-Dichlorobenzene-d4		152.00	4.978	(0.614)	306875	64 1100
21 N-Nitroso-di-n-propylamine		70.00	5.360	(1.118)	78363	18 300(aQ)
\$ 23 Nitrobenzene-d5		82.00	5.360	(0.875)	508696	70 1200
* 32 Naphthalene-d8		136.00	6.123	(1.000)	593370	40
\$ 40 2-Fluorobiphenyl		172.00	7.332	(0.905)	858825	75 1200
* 48 Acenaphthene-d10		164.00	8.106	(1.000)	357479	40
\$ 61 2,4,6-Tribromophenol		330.00	9.021	(0.923)	142586	88 1500
* 65 Phenanthrene-d10		188.00	9.774	(1.000)	497955	40
\$ 72 Terphenyl-d14		244.00	11.640	(0.879)	718970	76 1300
* 76 Chrysene-d12		240.00	13.235	(1.000)	276912	40
* 83 Perylene-d12		264.00	15.200	(1.000)	258354	40

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168s10.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 9406119-08B

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	160592	32.50
32 Naphthalene-d8	445390	222695	890780	593370	33.22
48 Acenaphthene-d10	275750	137875	551500	357479	29.64
65 Phenanthrene-d10	336972	168486	673944	497955	47.77
76 Chrysene-d12	146532	73266	293064	276912	88.98
83 Perylene-d12	160474	80237	320948	258354	60.99

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.18
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.19
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.15
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.16
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	A-01_BH_INT	74	84	64	67	72	10 *	67	72	1
02	A-01_BH_INT	66	73	71	63	67	55	65	63	0
03	A-02_BH_INT	71	80	74	67	73	41	67	68	0
04	A-02_BH_INT	83	77	67	67	73	51	67	62	0
05	A-03_BH_INT	68	74	69	63	67	51	65	64	0
06	A-03_BH_INT	68	74	72	64	67	67	63	64	0
07	A-04_BH_INT	80	105	60	77	77	40	77	95	0
08	A-04_BH_INT	73	81	80	73	67	80	67	77	0
09	A-05_BH_INT	76	90	60	69	71	32	71	74	0
10	A-05_BH_INT	73	83	79	73	73	25	73	77	0
11	A-06_BH_INT	65	80	65	63	57	23	60	55	0
12	A-06_BH_INT	74	78	71	65	67	35	66	66	0
13	A-07_BH_INT	70	67	65	66	73	43	67	62	0
14	A-07_BH_INT	70	75	76	65	67	59	65	64	0
15	SBLK01	80	84	83	73	80	87	73	79	0
16	SBLK02	69	84	84	67	73	73	67	68	0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (23-120)
 S2 (FBP) = 2-Fluorobiphenyl (30-115)
 S3 (TPH) = Terphenyl-d14 (18-137)
 S4 (PHL) = Phenol-d5 (24-113)
 S5 (2FP) = 2-Fluorophenol (25-121)
 S6 (TBP) = 2,4,6-Tribromophenol (19-122)
 S7 (2CP) = 2-Chlorophenol-d4 (20-130) (advisory)
 S8 (DCB) = 1,2-Dichlorobenzene-d4 (20-130) (advisory)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406592Matrix Spike - EPA Sample No.: A-03_BH_INT_2 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1399	56	26- 90
2-Chlorophenol	2500	0	1532	61	25-102
1,4-Dichlorobenzene	1660	0	982.4	59	28-104
N-Nitroso-di-n-prop. (1)	1660	0	1116	67	41-126
1,2,4-Trichlorobenzene	1660	0	1149	69	38-107
4-Chloro-3-methylphenol	2500	0	1832	73	26-103
Acenaphthene	1660	0	1132	68	31-137
4-Nitrophenol	2500	0	1832	73	11-114
2,4-Dinitrotoluene	1660	0	1332	80	28- 89
Pentachlorophenol	2500	0	1399	56	17-109
Pyrene	1660	0	1066	64	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Phenol	2500	1498	60	7	35	26- 90
2-Chlorophenol	2500	1665	67	9	50	25-102
1,4-Dichlorobenzene	1660	1049	63	7	27	28-104
N-Nitroso-di-n-prop. (1)	1660	1199	72	7	38	41-126
1,2,4-Trichlorobenzene	1660	1232	74	7	23	38-107
4-Chloro-3-methylphenol	2500	1998	80	9	33	26-103
Acenaphthene	1660	1232	74	8	19	31-137
4-Nitrophenol	2500	1998	80	9	50	11-114
2,4-Dinitrotoluene	1660	1432	86	7	47	28- 89
Pentachlorophenol	2500	1515	61	9	47	17-109
Pyrene	1660	1082	65	2	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 11 outside limitsSpike Recovery: 0 out of 22 outside limitsCOMMENTS: ,406119,,A-03 BH INT.2,L,S,9406119-10B,B,E,C,J
CAP,J168CC1,J168DF1,,,,,J

3D
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 405986 SAS No.: _____ SDG No.: 406119

Matrix Spike - EPA Sample No.: SOUTH_B Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1958	78	26- 90
2-Chlorophenol	2500	0	1851	74	25-102
1,4-Dichlorobenzene	1660	0	1352	81	28-104
N-Nitroso-di-n-prop. (1)	1660	300.4	1455	70	41-126
1,2,4-Trichlorobenzene	1660	0	1528	92	38-107
4-Chloro-3-methylphenol	2500	0	2241	90	26-103
Acenaphthene	1660	0	1412	85	31-137
4-Nitrophenol	2500	0	2797	112	11-114
2,4-Dinitrotoluene	1660	0	1595	96 *	28- 89
Pentachlorophenol	2500	0	1878	75	17-109
Pyrene	1660	0	1415	85	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Phenol	2500	2045	82	5	35	26- 90
2-Chlorophenol	2500	1928	77	4	50	25-102
1,4-Dichlorobenzene	1660	1372	83	2	27	28-104
N-Nitroso-di-n-prop. (1)	1660	1475	71	1	38	41-126
1,2,4-Trichlorobenzene	1660	1552	93	1	23	38-107
4-Chloro-3-methylphenol	2500	2378	95	5	33	26-103
Acenaphthene	1660	1439	87	2	19	31-137
4-Nitrophenol	2500	2807	112	0	50	11-114
2,4-Dinitrotoluene	1660	1698	102 *	6	47	28- 89
Pentachlorophenol	2500	2075	83	10	47	17-109
Pyrene	1660	1472	89	5	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 2 out of 22 outside limits

COMMENTS: 8270,405986,,SOUTH B,L,S,9405986-05B,B,E,30-1,05/25 DE-2UL
CAP,0531S2D1,0531DFD2,,,,,40/4--300@10,INST D1

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK01

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: J160SBK1 Lab Sample ID: 940608SNB1

Instrument ID: J Date Extracted: 06/08/94

Matrix: (soil/water) SOIL Date Analyzed: 06/09/94

Level: (low/med) LOW Time Analyzed: 1704

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	A-01_BH_INT	9406119-11B	J168S08	06/17/94
02	A-01_BH_INT	9406119-12B	J168S07	06/17/94
03	A-02_BH_INT	9406119-14B	J168S05	06/17/94
04	A-02_BH_INT	9406119-13B	J168S06	06/17/94
05	A-03_BH_INT	9406119-09B	J168S09	06/17/94
06	A-03_BH_INT	9406119-10B	J168S02	06/17/94
07	A-04_BH_INT	9406119-02B	J164S05	06/13/94
08	A-05_BH_INT	9406119-04B	J164S06	06/13/94
09	A-06_BH_INT	9406119-05B	J168S13	06/17/94
10	A-06_BH_INT	9406119-06B	J168S12	06/17/94
11	A-07_BH_INT	9406119-07B	J168S11	06/17/94
12	A-07_BH_INT	9406119-08B	J168S10	06/17/94

COMMENTS: ,BLANK,,SBLK01,L,S,940608SNB1,B,B,C,J
CAP,J160CC2,J160DF2,,,,,J



SPL Blank QC Report

page 1

Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

Compound	Result	Detection Limit	Units
Pyridine	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
bis(2-Chloroethyl) Ether	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
Benzyl Alcohol	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
bis(2-Chloroisopropyl) Ethe	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Nitrobenzene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
bis(2-Chloroethoxy) Methane	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg

Notes

ND - Not detected.

Idelis Williams
Idelis Williams, QC Officer



SPL Blank QC Report

page 2

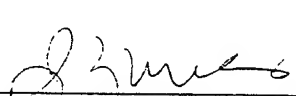
Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

C o m p o u n d	Result	Detection Limit	Units
3-Nitroaniline	ND	800	µg/Kg
Acenaphthene	ND	330	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
Dibenzofuran	ND	330	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
1,2-Diphenylhydrazine	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
Di-n-Butylphthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
Benzo(a)anthracene	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Benzo(b)fluoranthene	ND	330	µg/Kg
Benzo(k)fluoranthene	ND	330	µg/Kg
Benzo(a)pyrene	ND	330	µg/Kg
Indeno(1,2,3-cd)pyrene	ND	330	µg/Kg
Dibenz(a,h)anthracene	ND	330	µg/Kg

Notes

ND - Not detected.


Idelis Williams, QC Officer



SPL Blank QC Report

page 3

Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

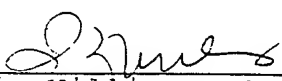
C o m p o u n d	Result	Detection Limit	Units
Benzo(g,h,i)perylene	ND	330	µg/Kg

S u r r o g a t e	Result	QC Criteria	Units
Nitrobenzene-d5	80	23-120	% Recovery
2-Fluorobiphenyl	84	30-115	% Recovery
Terphenyl-d14	83	18-137	% Recovery
Phenol-d5	73	24-113	% Recovery
2-Fluorophenol	80	25-121	% Recovery
2,4,6-Tribromophenol	87	19-122	% Recovery

Samples in Batch 9406119-02 9406119-04

Notes

ND - Not detected.


Idelis Williams, QC Officer

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK02

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: J168SBK1 Lab Sample ID: 940615SNB1

Instrument ID: J Date Extracted: 06/15/94

Matrix: (soil/water) SOIL Date Analyzed: 06/17/94

Level: (low/med) LOW Time Analyzed: 1252

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	A-04_BH_INT	9406119-01B	J168S15	06/17/94
02	A-05_BH_INT	9406119-03B	J168S14	06/17/94

COMMENTS: ,BLANK,,SBLK02,L,S,940615SNB1,B,B,C,J
CAP,J168CC1,J168DF1,,,,,J



SPL Blank QC Report

page 7

Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

C o m p o u n d	Result	Detection Limit	Units
Pyridine	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
bis(2-Chloroethyl) Ether	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
Benzyl Alcohol	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
bis(2-Chloroisopropyl) EtHe	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Nitrobenzene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Benzoic Acid	ND	330	µg/Kg
bis(2-Chloroethoxy) Methane	ND	1600	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	800	µg/Kg
2-Nitroaniline	ND	330	µg/Kg
Dimethyl Phthalate	ND	800	µg/Kg
Acenaphthylene	ND	330	µg/Kg

Notes

ND - Not detected.

Idelis Williams
Idelis Williams, QC Officer



SPL Blank QC Report

page 8

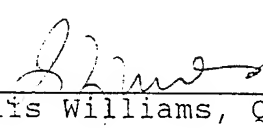
Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

C o m p o u n d	Result	Detection Limit	Units
3-Nitroaniline	ND	800	µg/Kg
Acenaphthene	ND	330	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
Dibenzofuran	ND	330	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
1,2-Diphenylhydrazine	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
Di-n-Butylphthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
Benzo(a)anthracene	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Benzo(b)fluoranthene	ND	330	µg/Kg
Benzo(k)fluoranthene	ND	330	µg/Kg
Benzo(a)pyrene	ND	330	µg/Kg
Indeno(1,2,3-cd)pyrene	ND	330	µg/Kg
Dibenz(a,h)anthracene	ND	330	µg/Kg

Notes

ND - Not detected.


Idelis Williams, QC Officer



SPL Blank QC Report

page 9

Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

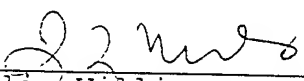
C o m p o u n d	Result	Detection Limit	Units
Benzo(g,h,i)perylene	ND	330	µg/Kg

S u r r o g a t e	Result	QC Criteria	Units
Nitrobenzene-d5	69	23-120	% Recovery
2-Fluorobiphenyl	84	30-115	% Recovery
Terphenyl-d14	84	18-137	% Recovery
Phenol-d5	67	24-113	% Recovery
2-Fluorophenol	73	25-121	% Recovery
2,4,6-Tribromophenol	73	19-122	% Recovery

Samples in Batch 9406119-01 9406119-03 9406119-05 9406119-06
9406119-07 9406119-08 9406119-09 9406119-10
9406119-11 9406119-12 9406119-13 9406119-14

Notes

ND - Not detected.

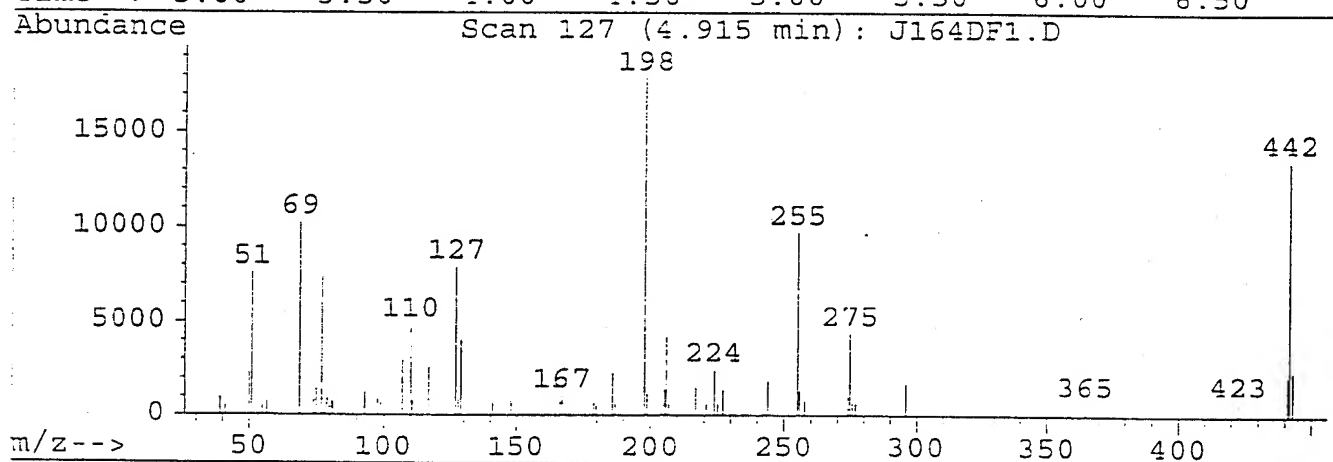
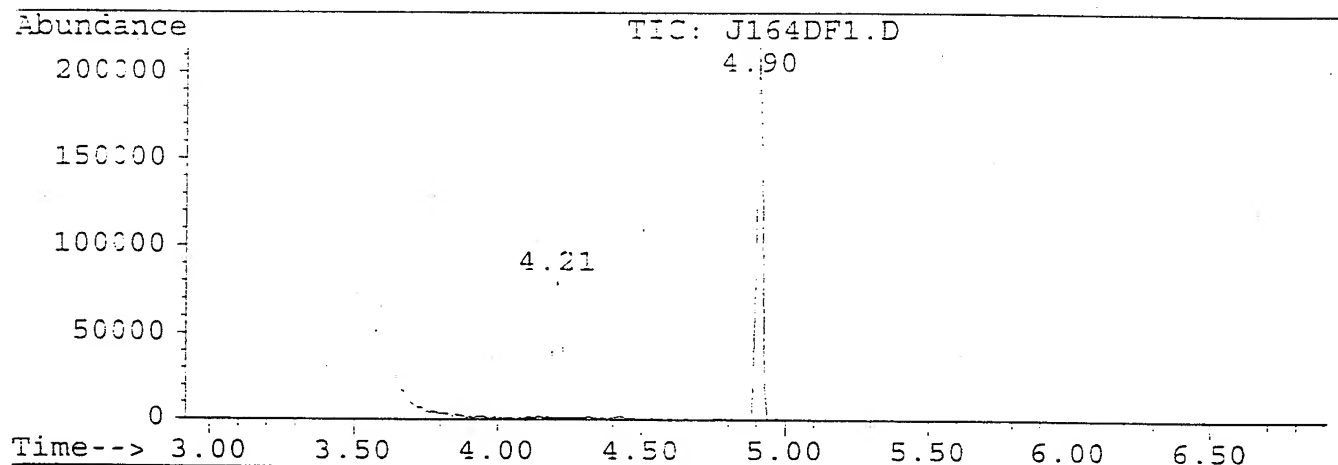

Idelis Williams, QC Officer

DFTPP

Data File : C:\HPCHEM\1\DATA\J940613\J164DF1.D
 Acq On : 13 Jun 94 2:17 pm
 Sample : 50 ng DFTPP
 Misc : 940613 50 ng DFTPP

Vial: 1
 Operator: LH
 Inst : j
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\ENVDEF.M
 Title :



Peak Apex is scan: 127

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.6	7571	PASS
69	69	0	2	0.0	0	PASS
69	198	0	100	54.9	10226	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	42.4	7891	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	18632	PASS
199	198	5	9	6.0	1127	PASS
275	198	10	30	23.4	4360	PASS
365	198	1	100	3.6	680	PASS
441	443	0	100	87.7	2073	PASS
442	198	40	100	72.6	13531	PASS
443	442	17	23	17.5	2363	PASS

Data File: /chem/j.i/j940613.b/j164df1.d

Page 1

Date : 13-JUN-94 14:17

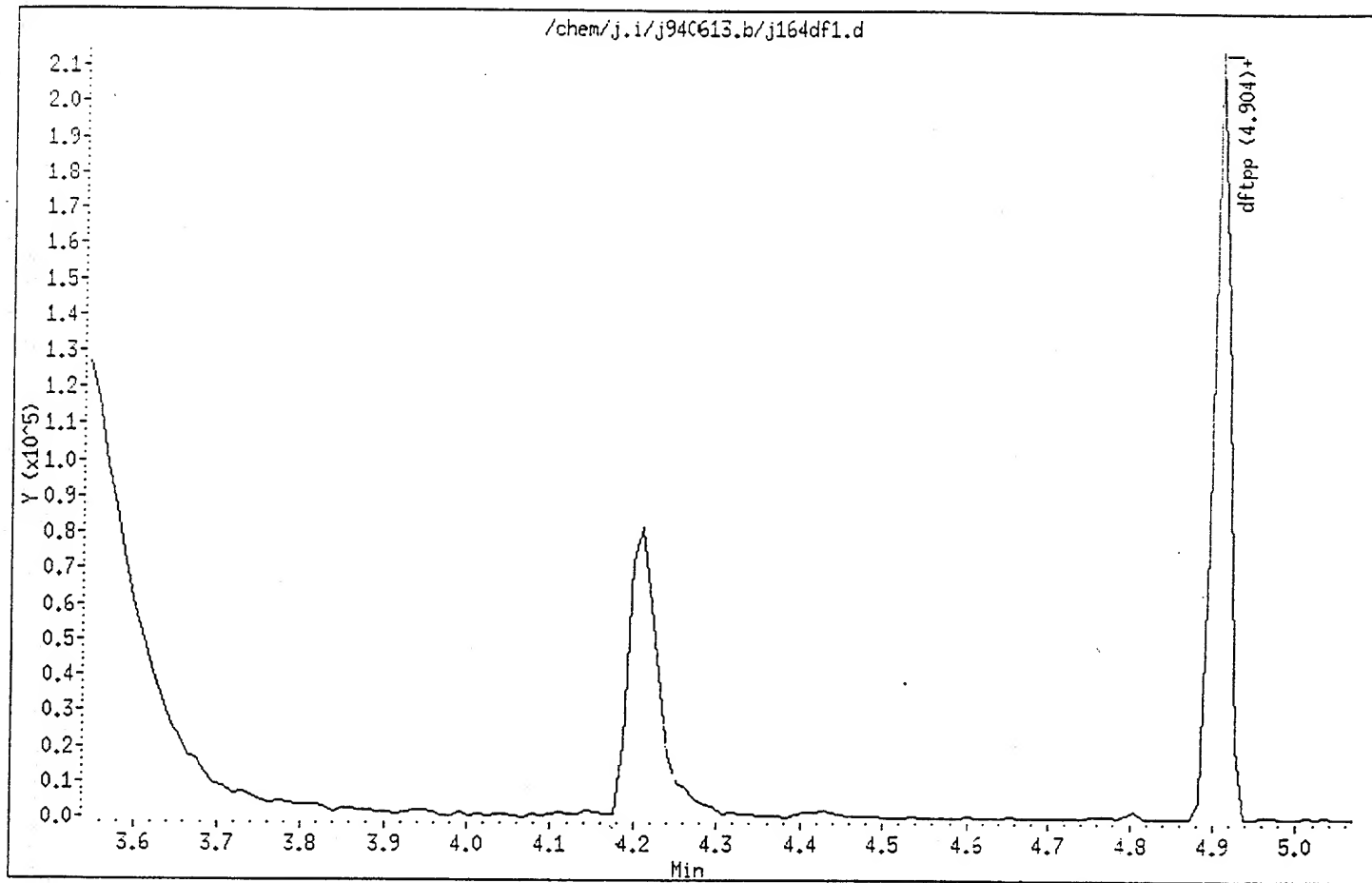
Instrument : j.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 1.0



SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
 Lab File ID: j164cc1.d
 Analysis Type: WATER
 Lab Sample ID:
 Quant Type: ISTD

Injection Date: 13-JUN-1994 14:28
 Init. Calibration Date(s): 06/08/94 06/08/94
 Init. Calibration Times: 11:31 15:50
 Method File: /chem/j.i/j940613.b/jbna8.m

COMPOUND	RRF	RFSD	MIN RRF	MAX %D
1 N-Nitrosodimethylamine	0.619	0.734	0.010	18.6
2 Pyridine	1.396	1.337	0.010	4.3
\$ 3 2-Fluorophenol	1.200	1.377	0.010	14.8
4 Aniline	2.022	2.076	0.010	2.7
\$ 5 Phenol-d5	1.651	1.596	0.010	2.7
6 Phenol	1.875	1.994	0.800	6.4
7 bis(2-Chloroethyl)ether	1.333	1.444	0.700	8.3
\$ 8 2-Chlorophenol-d4	1.422	1.628	0.010	14.5
9 2-Chlorophenol	1.386	1.561	0.800	12.6
10 1,3-Dichlorobenzene	1.654	1.877	0.010	13.5
12 1,4-Dichlorobenzene	1.667	1.916	0.010	15.0
\$ 13 1,2-Dichlorobenzene-d4	0.454	0.490	0.010	7.8
14 1,2-Dichlorobenzene	1.520	1.743	0.010	14.7
15 Benzyl alcohol	1.278	1.515	0.010	18.5
16 2-Methylphenol	1.278	1.515	0.010	18.5
17 ortho-Cresol	1.243	1.393	0.010	12.1
18 bis(2-chloroisopropyl)ether	1.401	1.506	0.010	7.5
19 meta,para-Cresol	1.345	1.441	0.010	7.1
20 4-Methylphenol	1.345	1.441	0.010	7.1
21 N-Nitroso-di-n-propylamine	0.990	1.099	0.010	11.0
22 Hexachloroethane	0.758	0.841	0.010	11.0
\$ 23 Nitrobenzene-d5	0.433	0.473	0.010	9.2
24 Nitrobenzene	0.409	0.441	0.010	7.9
25 Isophorone	0.827	0.878	0.010	6.1
26 2-Nitrophenol	0.233	0.262	0.010	12.5
27 2,4-Dimethylphenol	0.428	0.450	0.010	5.2
28 bis(2-Chloroethoxy)methane	0.429	0.464	0.010	8.2
29 Benzoic acid	0.329	0.354	0.010	7.7
30 2,4-Dichlorophenol	0.350	0.375	0.010	7.2
31 1,2,4-Trichlorobenzene	0.365	0.386	0.010	5.8
33 Naphthalene	1.105	1.152	0.010	4.2
34 4-Chloroaniline	0.496	0.535	0.010	8.0
35 Hexachlorobutadiene	0.213	0.243	0.010	14.1
36 4-Chloro-3-methylphenol	0.418	0.432	0.010	3.5
37 2-Methylnaphthalene	0.735	0.827	0.010	12.6
38 Hexachlorocyclopentadiene	0.254	0.302	0.010	19.1
39 2,4,6-Trichlorophenol	0.371	0.426	0.010	12.3
\$ 40 2-Fluorobiphenyl	1.239	1.254	0.010	1.3
41 2,4,5-Trichlorophenol	0.418	0.451	0.010	7.9
42 2-Chloronaphthalene	1.181	1.301	0.010	10.2

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i Injection Date: 13-JUN-1994 14:28
 Lab File ID: j164cc1.d Init. Calibration Date(s): 06/08/94 06/08/94
 Analysis Type: WATER Init. Calibration Times: 11:31 15:50
 Lab Sample ID: Method File: /chem/j.i/j940613.b/jbna8.m
 Quant Type: ISTD

COMPOUND	RRF	RF50	MIN RRF	MAX %D
43 2-Nitroaniline	0.429	0.441	0.010	2.6
44 Dimethylphthalate	1.481	1.519	0.010	2.6
45 Acenaphthylene	1.913	2.066	0.010	8.0
46 2,6-Dinitrotoluene	0.338	0.374	0.010	10.7
47 3-Nitroaniline	0.373	0.389	0.010	4.3
49 Acenaphthene	1.147	1.241	0.010	8.1
50 2,4-Dinitrophenol	0.115	0.136	0.010	18.7
51 Dibenzofuran	1.748	1.781	0.010	1.9
52 2,4-Dinitrotoluene	1.216	1.180	0.010	3.0
53 4-Nitrophenol	0.233	0.228	0.010	2.0
54 Diethylphthalate	1.499	1.563	0.010	4.2
55 4-Chlorophenyl-phenylether	0.604	0.632	0.010	4.6
56 Fluorene	1.352	1.316	0.010	2.6
57 4-Nitroaniline	0.340	0.371	0.010	9.1
58 4,6-Dinitro-2-methylphenol	0.093	0.157	0.010	68.6
59 n-Nitrosodiphenylamine	0.620	0.677	0.010	9.3
60 1,2-Diphenylhydrazine	2.239	2.157	0.010	3.7
61 2,4,6-Tribromophenol	0.133	0.153	0.010	14.7
62 4-Bromophenyl-phenylether	0.236	0.252	0.010	6.9
63 Hexachlorobenzene	0.283	0.307	0.010	8.6
64 Pentachlorophenol	0.113	0.161	0.010	41.7
66 Phenanthrene	1.248	1.357	0.010	8.7
67 Anthracene	1.248	1.357	0.010	8.7
68 Carbazole	1.122	1.206	0.010	7.4
69 Di-n-butylphthalate	1.598	1.703	0.010	6.6
70 Fluoranthene	1.047	1.105	0.010	5.6
71 Pyrene	1.820	2.076	0.010	14.1
72 Terphenyl-d14	1.211	1.373	0.010	13.3
73 Butylbenzylphthalate	1.116	1.181	0.010	5.8
74 3,3'-Dichlorobenzidine	0.503	0.492	0.010	2.1
75 Benzo[a]anthracene	1.237	1.392	0.010	4.1
77 bis(2-Ethylhexyl)phthalate	1.458	1.420	0.010	2.6
78 Chrysene	1.216	1.251	0.010	2.9
79 Di-n-octylphthalate	2.556	2.486	0.010	2.7
80 Benzo[b]fluoranthene	1.235	1.330	0.010	7.6
81 Benzo[k]fluoranthene	1.235	1.330	0.010	7.6
82 Benzo[a]pyrene	1.122	1.210	0.010	7.8
84 Indeno[1,2,3-cd]pyrene	1.413	1.666	0.010	17.9
85 Dibenz[a,h]anthracene	1.117	1.326	0.010	18.8
86 Benzo[g,h,i]perylene	1.208	1.440	0.010	19.2

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164cc1.d

Lab. Id. : Quant Type: ISTD
Inj Date : 13-JUN-94 14:28 Autotune Date: (
Operator : LH Inst ID: j.i

Smp Info : 940613 STD050

Misc Info : 940613 STD050

Comment :

Method : /chem/j.i/j940613.b/jbna8.m

Meth Date : 13-Jun-1994 14:51

Cal Date : 08-JUN-94 15:50

Cal File: j159ic06.d

Als bottle: 1

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: WATER

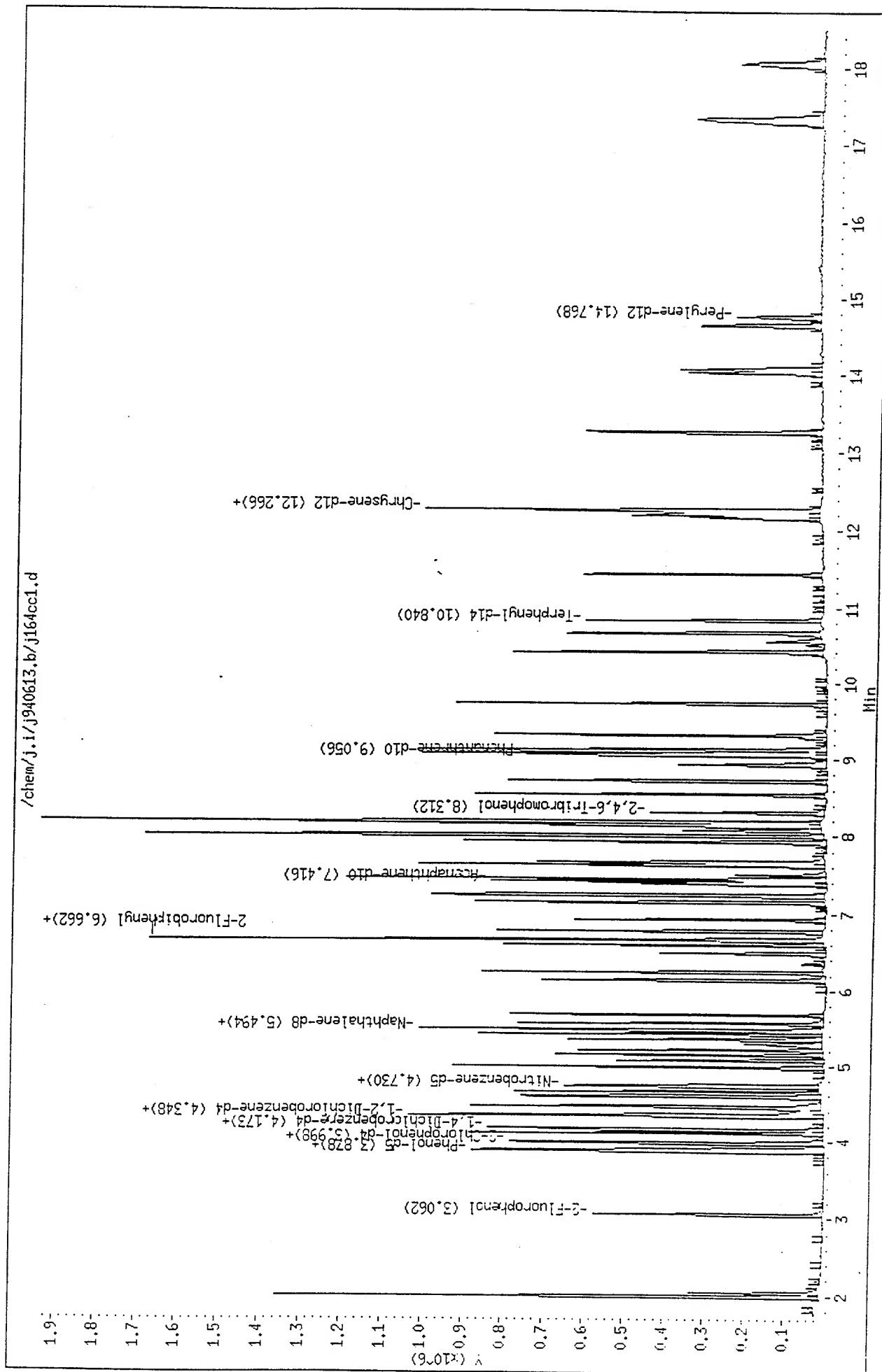
Compounds	QUANT SIG	CONCENTRATIONS				
		ON-COLUMN	FINAL			
	MASS	RT	REL RT	RESPONSE	(ng)	(ug/L)
=====	=====	==	=====	=====	=====	=====
1 N-Nitrosodimethylamine	74.00	2.017	(0.485)	78654	59	30
2 Pyridine	79.00	2.039	(0.491)	143316	46	24
S 3 2-Fluorophenol	112.00	3.062	(0.738)	147671	57	29
4 Aniline	93.00	3.878	(0.934)	222552	51	26
S 5 Phenol-d5	99.00	3.889	(0.937)	181803	51	26
6 Phenol	94.00	3.900	(0.939)	213856	53	26
7 bis(2-Chloroethyl)ether	93.00	3.922	(0.945)	154834	54	27
S 8 2-Chlorophenol-d4	132.00	3.988	(0.961)	174533	57	29
9 2-Chlorophenol	128.00	3.998	(0.963)	167409	56	28
10 1,3-Dichlorobenzene	146.00	4.119	(0.992)	201306	57	28
* 11 1,4-Dichlorobenzene-d4	152.00	4.151	(1.000)	95780	40	
12 1,4-Dichlorobenzene	146.00	4.173	(1.005)	205461	57	29
S 13 1,2-Dichlorobenzene-d4	152.00	4.337	(0.585)	127772	54	27
14 1,2-Dichlorobenzene	146.00	4.359	(1.050)	186916	57	29
15 Benzyl alcohol	108.00	4.468	(1.075)	162424	59	30
16 2-Methylphenol	108.00	4.468	(1.075)	162424	59	30
17 ortho-Cresol	107.00	4.468	(1.075)	149334	56	28
18 bis(2-chloroisopropyl)ether	45.00	4.457	(1.074)	151435	54	27
19 meta,para-Cresol	108.00	4.610	(1.110)	154495	54	27
20 4-Methylphenol	108.00	4.610	(1.110)	154495	54	27
21 N-Nitroso-di-n-propylamine	70.00	4.599	(1.108)	117856	56	28
22 Hexachloroethane	117.00	4.665	(1.124)	90163	55	28
S 23 Nitrobenzene-d5	92.00	4.730	(0.864)	134650	54	27
24 Nitrobenzene	77.00	4.752	(0.863)	181500	54	27
25 Isophorone	82.00	4.992	(0.912)	360391	53	26
26 2-Nitrophenol	139.00	5.079	(0.925)	107810	56	28
27 2,4-Dimethylphenol	107.00	5.155	(0.942)	185212	53	26
28 bis(2-Chloroethoxy)methane	93.00	5.221	(0.954)	190365	54	27
29 Benzoic acid	122.00	5.155	(0.942)	145714	54	27

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	REL RT		ON-COLUMN (ng)	FINAL (ug/L)
-----	----	--	-----	-----	-----	-----
30 2,4-Dichlorophenol	162.00	5.163	(0.990)	154256	54	27
31 1,2,4-Trichlorobenzene	180.00	5.429	(0.992)	158762	53	26
32 Naphthalene-d8	136.00	5.472	(1.000)	329103	40	
33 Naphthalene	128.00	5.494	(1.004)	473946	52	26
34 4-Chloroaniline	127.00	5.571	(1.018)	220159	54	27
35 Hexachlorobutadiene	225.00	5.691	(1.040)	100076	57	28
36 4-Chloro-3-methylphenol	167.00	5.138	(1.122)	177910	52	26
37 2-Methylnaphthalene	142.00	6.247	(1.142)	340236	56	28
38 Hexachlorocyclopentadiene	237.00	6.498	(0.876)	78871	60	30
39 2,4,6-Trichlorophenol	196.00	6.596	(0.890)	108611	56	28
S 40 2-Fluorobiphenyl	172.00	6.662	(0.898)	327193	51	25
41 2,4,5-Trichlorophenol	196.00	6.662	(0.898)	117663	54	27
42 2-Chloronaphthalene	162.00	6.782	(0.915)	339378	55	28
43 2-Nitroaniline	65.00	6.924	(0.934)	114961	51	26
44 Dimethylphthalate	163.00	7.153	(0.965)	396257	51	26
45 Acenaphthylene	152.00	7.241	(0.976)	538824	54	27
46 2,6-Dinitrotoluene	165.00	7.230	(0.975)	97529	55	28
47 3-Nitroaniline	138.00	7.394	(0.997)	101453	52	26
48 Acenaphthene-d10	164.00	7.416	(1.000)	208681	40	
49 Acenaphthene	153.00	7.448	(1.004)	323625	54	27
50 2,4-Dinitrophenol	184.00	7.503	(1.012)	35561	59	30
51 Dibenzofuran	168.00	7.623	(1.028)	464553	51	25
52 2,4-Dinitrotoluene	165.00	8.017	(1.081)	307768	48	24
53 4-Nitrophenol	109.00	7.645	(1.031)	59513	49	24
54 Diethylphthalate	149.00	7.929	(1.069)	407701	52	26
55 4-Chlorophenyl-phenylether	204.00	8.006	(1.080)	164984	52	26
56 Fluorene	166.00	8.017	(1.081)	343284	49	24
57 4-Nitroaniline	138.00	8.083	(1.090)	96775	54	27
58 4,6-Dinitro-2-methylphenol	198.00	8.126	(0.897)	55443	84	42
59 n-Nitrosodiphenylamine	169.00	8.148	(0.900)	238454	55	27
60 1,2-Diphenylhydrazine	77.00	8.181	(0.903)	759358	48	24
S 61 2,4,6-Tribromophenol	330.00	8.312	(0.918)	53871	57	29
62 4-Bromophenyl-phenylether	248.00	8.542	(0.943)	88895	53	27
63 Hexachlorobenzene	284.00	8.717	(0.963)	108214	54	27
64 Pentachlorophenol	266.00	8.935	(0.987)	56624	71	35
65 Phenanthrene-d10	188.00	9.056	(1.000)	281650	40	
66 Phenanthrene	178.00	9.133	(1.008)	477602	54	27
67 Anthracene	178.00	9.133	(1.008)	477602	54	27
68 Carbazole	167.00	9.319	(1.029)	424416	54	27
69 Di-n-butylphthalate	149.00	9.734	(1.075)	599620	53	27
70 Fluoranthene	202.00	10.412	(1.150)	389129	53	26
71 Pyrene	202.00	10.675	(0.872)	371060	57	28
S 72 Terphenyl-d14	244.00	10.840	(0.885)	245343	57	28
73 Butylbenzylphthalate	149.00	11.454	(0.935)	211101	53	26
74 3,3'-Dichlorobenzidine	252.00	12.177	(0.995)	38001	49	24
75 Benzo[a]anthracene	228.00	12.210	(0.997)	248751	52	26
76 Chrysene-d12	240.00	12.244	(1.000)	142982	40	
77 bis(2-Ethylhexyl)phthalate	149.00	12.266	(1.002)	253716	49	24
78 Chrysene	228.00	12.277	(1.003)	223659	51	26

Compounds	QUANT SIG		RT	REL RT	RESPONSE	CONCENTRATIONS	
	MASS					IN-COLUMN	FINAL
-----	----	==	-----	-----	-----	ng/	ug/L
79 Di-n-octylphthalate	149.00		13.264	(0.898)	466920	49	24
80 Benzo(b)fluoranthene	252.00		14.076	(0.953)	249732	54	27
81 Benzo(k)fluoranthene	252.00		14.076	(0.953)	249732	54	27
82 Benzo(a)pyrene	252.00		14.658	(0.993)	227267	54	27
83 Perylene-d12	264.00		14.768	(1.000)	150259	40	
84 Indeno(1,2,3-cd)pyrene	276.00		17.314	(1.170)	312882	59	29
85 Dibenzo(a,h)anthracene	278.00		17.347	(1.175)	249074	59	30
86 Benzo(g,h,i)perylene	276.00		18.060	(1.223)	270429	60	30

Data File: /chem/j.i/j940613.b/j164cc1.d
 Date : 13-JUN-94 14:28
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (uL) : 2.0

Column diameter : 0.25



SPL Houston Labs

Data file : /chem/j.i/j940609.b/j160sbk1.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 09-JUN-1994 17:04

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 940608SNB1

Misc Info : 940608SNB1

Comment :

Method : /chem/j.i/j940609.b/jbna8.m

Meth Date : 15-Jun-1994 13:30 csadmin

Cal Date : 08-JUN-1994 12:47

Cal File: j159ic04.d

Als bottle: 1

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG	CONCENTRATIONS				
		MASS	RT	REL RT	RESPONSE	ON-COLUMN (ng) FINAL (ug/Kg)
-----	----	----	==	=====	-----	-----
\$ 3 2-Fluorophenol	112.00	3.074	(0.738)	326189	120	4000
\$ 5 Phenol-d5	99.00	3.891	(0.934)	374479	110	3600
\$ 8 2-Chlorophenol-d4	132.00	3.989	(0.958)	369597	110	3800
* 11 1,4-Dichlorobenzene-d4	152.00	4.164	(1.000)	80269	40	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.350	(0.586)	170396	79	2600
* 23 Nitrobenzene-d5	82.00	4.731	(0.865)	265741	80	2600
32 Naphthalene-d8	136.00	5.471	(1.000)	293026	40	
\$ 40 2-Fluorobiphenyl	172.00	6.668	(0.899)	493140	84	2800
* 48 Acenaphthene-d10	164.00	7.419	(1.000)	183403	40	
\$ 51 2,4,6-Tribromophenol	330.00	8.312	(0.918)	135548	130	4400
* 65 Phenanthrene-d10	188.00	9.052	(1.000)	280989	40	
\$ 72 Terphenyl-d14	244.00	10.837	(0.885)	467963	83	2800
* 76 Chrysene-d12	240.00	12.243	(1.000)	157395	40	
* 83 Perylene-d12	264.00	14.763	(1.000)	128487	40	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: j940609.b
Sample Matrix: SOLID Fraction: SV
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/j.i/j940609.b/jbna8.m
Misc Info: 940608SNB1

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED -	LIMITS
\$ 3 2-Fluorophenol	150	120	80.12	25-121
\$ 5 Phenol-d5	150	110	72.16	24-113
\$ 8 2-Chlorophenol-d4	150	110	75.32	20-130
\$ 13 1,2-Dichlorobenzen	100	79	78.84	20-130
\$ 23 Nitrobenzene-d5	100	80	79.76	23-120
\$ 40 2-Fluorobiphenyl	100	84	84.54	30-115
\$ 61 2,4,6-Tribromophen	150	130	88.59	19-122
\$ 72 Terphenyl-d14	100	83	82.88	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j160sbk1.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940609.b/jbna8.m
 Misc Info: 940608SNB1

Calibration Date: 06/09/94
 Calibration Time: 1609
 Sample Type: SOIL
 Level: LOW

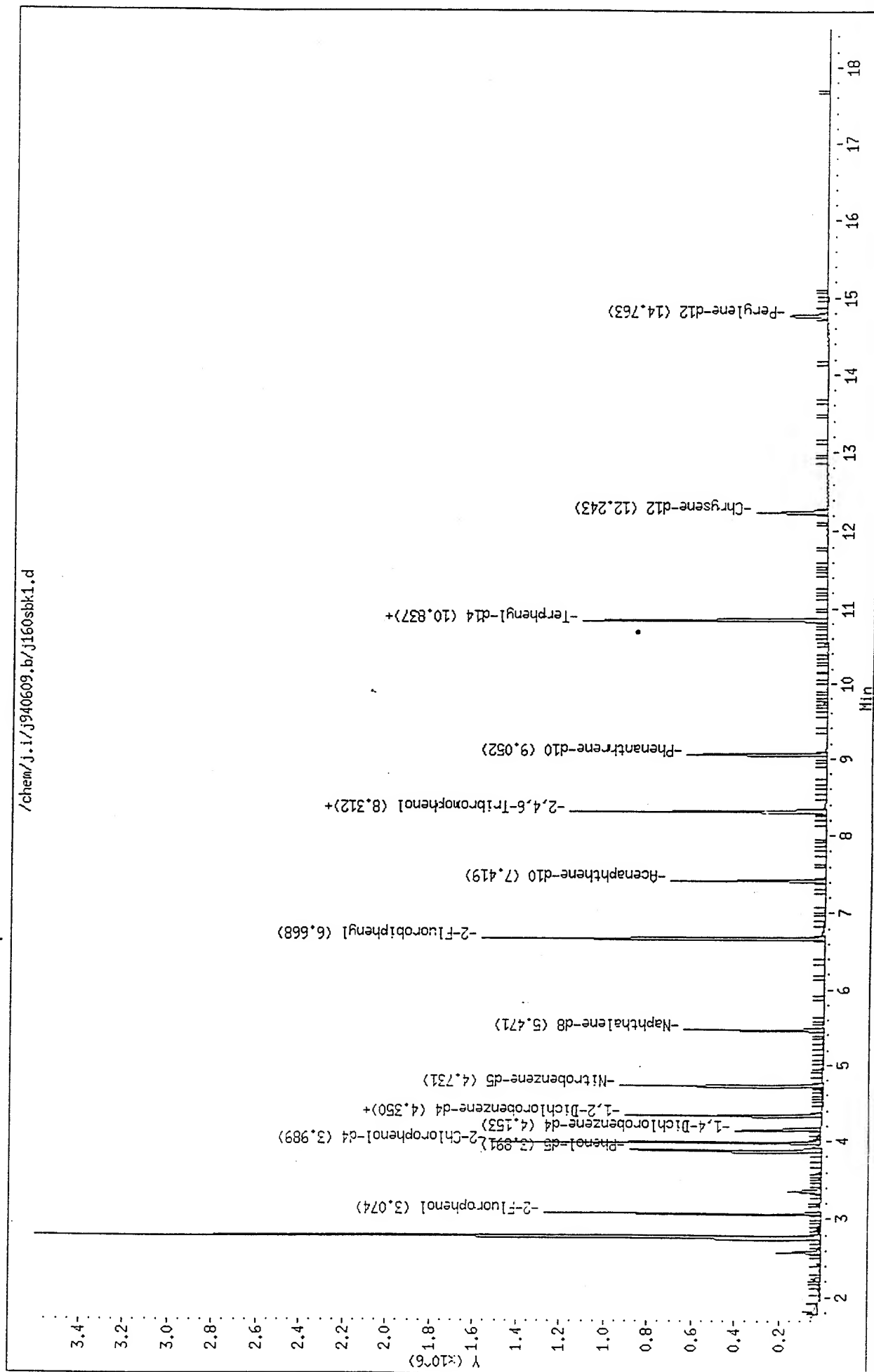
COMPOUND	STANDARD	AREA LIMIT		SAMPLE -	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	74530	37265	149060	80269	7.70
32 Naphthalene-d8	288821	144410	577642	293026	1.46
48 Acenaphthene-d10	187312	93656	374624	183403	-2.09
65 Phenanthrene-d10	253525	126762	507050	280989	10.83
76 Chrysene-d12	118083	59041	236166	157395	33.29
83 Perylene-d12	127432	63716	254864	128487	0.83

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.16	3.66	4.66	4.16	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.47	-0.02
48 Acenaphthene-d10	7.41	6.91	7.91	7.42	0.06
65 Phenanthrene-d10	9.05	8.55	9.55	9.05	-0.02
76 Chrysene-d12	12.24	11.74	12.74	12.24	0.01
83 Perylene-d12	14.77	14.27	15.27	14.76	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940609.b/j160sbk1.d
 Date : 09-JUN-1994 17:04
 Instrument : j.i
 Sample ID :
 Column phase : J&M DB-5
 Volume Injected (uL) : 1.0

Column diameter : 0.25

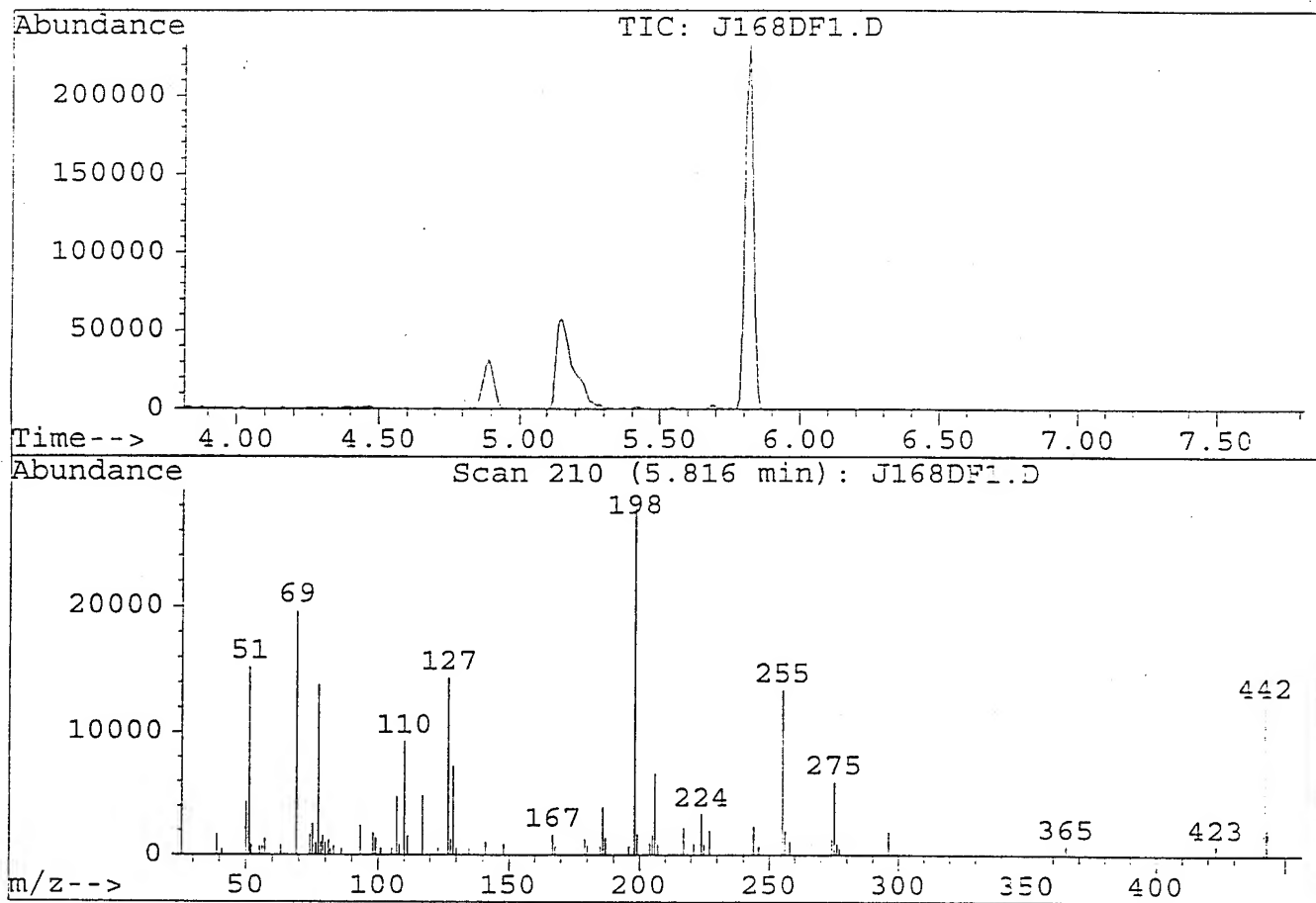


DFTPP

Data File : C:\HPCHEM\1\DATA\J940617\J168DF1.D
Acq On : 17 Jun 94 9:28 am
Sample : 50 ng DFTPP
Misc : 940617 50 ng DFTPP

Vial: 1
Operator: LH
Inst :
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\ENVDEF.M
Title :



Peak Apex is scan: 210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	54.4	15181	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	70.3	19624	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	51.4	14333	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	27904	PASS
199	198	5	9	6.1	1707	PASS
275	198	10	30	21.1	5398	PASS
365	198	1	100	2.6	736	PASS
441	443	0	100	84.1	1817	PASS
442	198	40	100	43.7	12192	PASS
443	442	17	23	17.7	2160	PASS

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j168cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 17-JUN-1994 09:39
Init. Calibration Date(s): 06/16/94 06/16/94
Init. Calibration Times: 13:44 16:37
Method File: /chem/j.i/j940617.b/jclpw.m

COMPOUND	RRF	RFS0	MIN	MAX
1 N-Nitrosodimethylamine	0.760	0.909	0.010	19.7
2 Pyridine	1.284	1.497	0.010	16.7
S 3 2-Fluorophenol	1.342	1.483	0.600	10.5
4 Aniline	1.896	2.091	0.010	10.3
S 5 Phenol-d5	1.732	1.914	0.800	10.5
6 Phenol	1.866	2.104	0.800	12.8
7 bis(2-Chloroethyl)ether	1.856	1.968	0.700	6.0
S 8 2-Chlorophenol-d4	1.542	1.688	0.800	9.5
9 2-Chlorophenol	1.487	1.645	0.800	10.6
10 1,3-Dichlorobenzene	1.733	1.896	0.600	9.4
12 1,4-Dichlorobenzene	1.698	1.884	0.500	10.9
S 13 1,2-Dichlorobenzene-d4	0.493	0.534	0.400	8.2
14 1,2-Dichlorobenzene	1.584	1.760	0.400	11.1
15 Benzyl alcohol	0.549	1.748	0.010	218.2
16 2-Methylphenol	1.528	1.748	0.700	14.4
17 ortho-Cresol	1.528	1.748	0.700	14.4
18 bis(2-chloroisopropyl)ether	1.405	1.633	0.010	16.3
19 meta,para-Cresol	1.393	1.543	0.600	10.8
20 4-Methylphenol	1.393	1.543	0.600	10.8
21 N-Nitroso-di-n-propylamine	0.990	1.089	0.500	10.0
22 Hexachloroethane	0.736	0.826	0.300	12.2
S 23 Nitrobenzene-d5	0.439	0.491	0.200	11.8
24 Nitrobenzene	0.421	0.460	0.200	9.2
25 Isophorone	0.824	0.899	0.400	9.1
26 2-Nitrophenol	0.239	0.267	0.100	11.6
27 2,4-Dimethylphenol	0.405	0.451	0.200	11.4
28 bis(2-Chloroethoxy)methane	0.426	0.474	0.300	11.2
29 Benzoic acid	0.317	0.344	0.010	8.6
30 2,4-Dichlorophenol	0.329	0.369	0.200	12.2
31 1,2,4-Trichlorobenzene	0.333	0.375	0.200	12.8
33 Naphthalene	1.045	1.173	0.700	12.2
34 4-Chloroaniline	0.469	0.534	0.010	13.7
35 Hexachlorobutadiene	0.202	0.217	0.010	7.5
36 4-Chloro-3-methylphenol	0.390	0.439	0.200	12.6
37 2-Methylnaphthalene	0.751	0.817	0.400	8.9
38 Hexachlorocyclopentadiene	0.282	0.262	0.010	6.8
39 2,4,6-Trichlorophenol	0.356	0.370	0.200	3.9
S 40 2-Fluorobiphenyl	1.227	1.285	0.700	4.7
41 2,4,5-Trichlorophenol	0.410	0.425	0.200	3.6
42 2-Chloronaphthalene	1.228	1.296	0.300	5.6

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j168cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 17-JUN-1994 09:39
Init. Calibration Date(s): 06/16/94 06/16/94
Init. Calibration Times: 13:44 16:37
Method File: /chem/j.i/j940617.b/jclpw.m

COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
43 2-Nitroaniline	0.424	0.466	0.010	9.7	0.0
44 Dimethylphthalate	1.390	1.557	0.010	12.0	0.0
45 Acenaphthylene	1.939	2.087	1.300	7.6	25.0
46 2,6-Dinitrotoluene	0.337	0.372	0.200	10.3	25.0
47 3-Nitroaniline	0.361	0.399	0.010	10.3	0.0
49 Acenaphthene	1.124	1.208	0.800	7.5	25.0
50 2,4-Dinitrophenol	0.140	0.141	0.010	0.6	0.0
51 Dibenzofuran	1.585	1.772	0.800	11.8	25.0
52 2,4-Dinitrotoluene	0.415	0.451	0.200	8.8	25.0
53 4-Nitrophenol	0.191	0.210	0.010	9.4	0.0
54 Diethylphthalate	1.322	1.561	0.010	18.1	0.0
55 4-Chlorophenyl-phenylether	0.541	0.598	0.400	10.6	25.0
56 Fluorene	1.230	1.378	0.900	12.0	25.0
57 4-Nitroaniline	0.304	0.343	0.010	12.6	0.0
58 4,6-Dinitro-2-methylphenol	0.156	0.162	0.010	4.0	0.0
59 n-Nitrosodiphenylamine	0.648	0.712	0.010	9.8	0.0
60 1,2-Diphenylhydrazine	2.337	2.641	0.010	13.0	0.0
61 2,4,6-Tribromophenol	0.121	0.130	0.010	7.4	0.0
62 4-Bromophenyl-phenylether	0.229	0.243	0.100	6.2	25.0
63 Hexachlorobenzene	0.267	0.279	0.100	4.4	25.0
64 Pentachlorophenol	0.117	0.114	0.050	1.9	25.0
66 Phenanthrene	1.295	1.387	0.700	7.1	25.0
67 Anthracene	1.263	1.340	0.700	6.0	25.0
68 Carbazole	1.079	1.199	0.010	11.1	0.0
69 Di-n-butylphthalate	1.493	1.629	0.010	9.1	0.0
70 Fluoranthene	0.943	1.024	0.600	3.7	25.0
71 Pyrene	1.889	2.230	0.600	18.1	25.0
72 Terphenyl-d14	1.225	1.368	0.500	11.7	25.0
73 Butylbenzylphthalate	1.172	1.311	0.010	11.8	0.0
74 3,3'-Dichlorobenzidine	0.479	0.522	0.010	9.1	0.0
75 Benzo(a)anthracene	1.387	1.475	0.800	6.3	25.0
77 bis(2-Ethylhexyl)phthalate	1.557	1.701	0.010	9.3	0.0
78 Chrysene	1.262	1.426	0.700	13.0	25.0
79 Di-n-octylphthalate	2.675	2.984	0.010	7.8	0.0
80 Benzo(b)fluoranthene	1.310	1.443	0.700	10.1	25.0
81 Benzo(k)fluoranthene	1.334	1.340	0.700	0.4	25.0
82 Benzo(a)pyrene	1.147	1.235	0.700	7.6	25.0
84 Indeno(1,2,3-cd)pyrene	1.367	1.477	0.500	8.0	25.0
85 Dibenz(a,h)anthracene	1.088	1.153	0.400	5.9	25.0
86 Benzo(g,h,i)perylene	1.147	1.274	0.500	11.1	25.0

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168cc1.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 17-JUN-1994 09:39

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 940617 STD050

Misc Info : 940617 STD050

Comment :

Method : /chem/j.i/j940617.b/jclpw.m

Meth Date : 22-Jun-1994 20:11 liping

Cal Date : 17-JUN-1994 09:39

Als bottle: 1

Dil Factor: 1.000

Integrator: HP RTE

Sample Matrix: WATER

Cal File: j168cc1.d

Continuing Calibration Sample

Target Version: Target 3.00

Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	REL RT	RESPONSE	ON-COLUMN	FINAL
						(ng)	(ug/L)
=====	====	==	=====	=====	=====	=====	
1 N-Nitrosodimethylamine	74.00	2.654	(0.553)	137734	60	30	
2 Pyridine	79.00	2.687	(0.560)	226854	58	29	
\$ 3 2-Fluorophenol	112.00	3.689	(0.768)	224745	55	28	
4 Aniline	93.00	4.517	(0.941)	316775	55	28	
\$ 5 Phenol-d5	99.00	4.495	(0.936)	289966	55	28	
6 Phenol	94.00	4.506	(0.939)	318774	56	28	
7 bis(2-Chloroethyl)ether	93.00	4.550	(0.948)	298183	53	26	
\$ 8 2-Chlorophenol-d4	132.00	4.626	(0.964)	255720	55	27	
9 2-Chlorophenol	128.00	4.637	(0.966)	249182	55	28	
10 1,3-Dichlorobenzene	146.00	4.768	(0.993)	287206	55	27	
* 11 1,4-Dichlorobenzene-d4	152.00	4.801	(1.000)	121206	40		
12 1,4-Dichlorobenzene	146.00	4.812	(1.002)	285441	55	28	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.997	(0.615)	183991	54	27	
14 1,2-Dichlorobenzene	146.00	5.008	(1.043)	266640	56	28	
15 Benzyl alcohol	108.00	5.085	(1.059)	264785	160	80	
16 2-Methylphenol	108.00	5.085	(1.059)	264785	57	29	
17 ortho-Cresol	108.00	5.085	(1.059)	264785	57	29	
18 bis(2-chloroisopropyl)ether	45.00	5.085	(1.059)	247415	58	29	
19 meta,para-Cresol	108.00	5.238	(1.091)	233829	55	28	
20 4-Methylphenol	108.00	5.238	(1.091)	233829	55	28	
21 N-Nitroso-di-n-propylamine	70.00	5.238	(1.091)	164984	55	27	
22 Hexachloroethane	117.00	5.326	(1.109)	125093	56	28	
\$ 23 Nitrobenzene-d5	82.00	5.380	(0.877)	273373	56	28	
24 Nitrobenzene	77.00	5.402	(0.881)	255928	55	27	
25 Isophorone	82.00	5.642	(0.920)	500759	54	27	
26 2-Nitrophenol	139.00	5.741	(0.936)	148509	56	28	
27 2,4-Dimethylphenol	107.00	5.784	(0.943)	250849	56	28	
28 bis(2-Chloroethoxy)methane	93.00	5.861	(0.955)	263715	56	28	
29 Benzoic acid	122.00	5.784	(0.943)	191599	54	27	

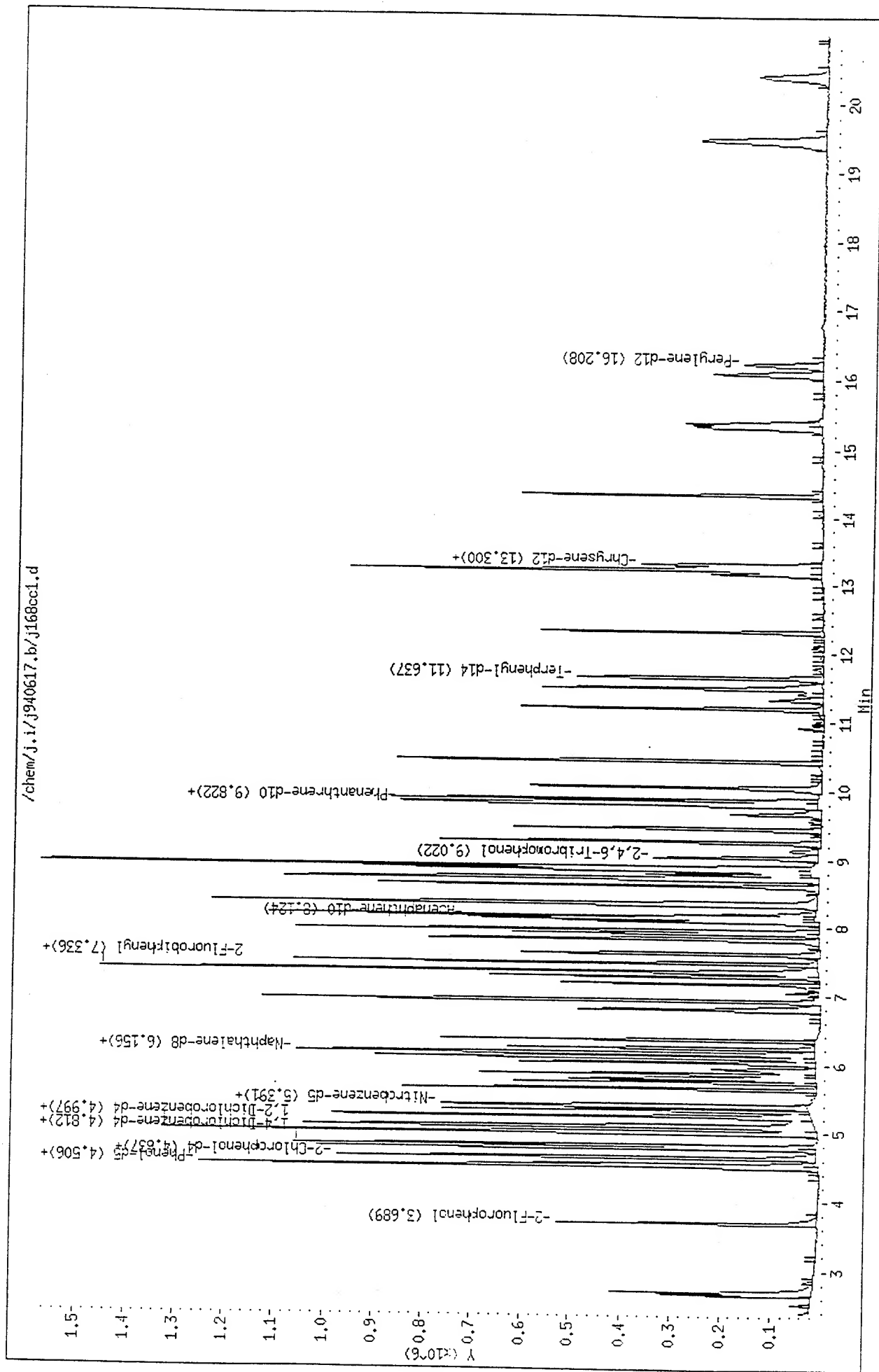
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	REL RT	RESPONSE	ON-COLUMN	FINAL
						ng	(ug/L)
=====	=====	=====	=====	=====	=====	=====	
30 2,4-Dichlorophenol	162.00	6.014 (0.990)	205274	56	23		
31 1,2,4-Trichlorobenzene	180.00	6.090 (0.993)	208923	56	23		
* 32 Naphthalene-d8	136.00	6.134 (1.000)	445390	40			
33 Naphthalene	128.00	6.167 (1.005)	552853	56	23		
34 4-Chloroaniline	127.00	6.233 (1.016)	297059	57	23		
35 Hexachlorobutadiene	225.00	6.353 (1.036)	120868	54	27		
36 4-Chloro-3-methylphenol	107.00	6.789 (1.107)	344241	56	23		
37 2-Methylnaphthalene	142.00	6.921 (1.128)	454882	54	27		
38 Hexachlorocyclopentadiene	237.00	7.172 (0.883)	90476	47	23		
39 2,4,6-Trichlorophenol	196.00	7.271 (0.895)	127591	52	26		
\$ 40 2-Fluorobiphenyl	172.00	7.336 (0.903)	442821	52	26		
41 2,4,5-Trichlorophenol	196.00	7.336 (0.903)	146420	52	26		
42 2-Chloronaphthalene	162.00	7.468 (0.919)	446622	53	26		
43 2-Nitroaniline	65.00	7.610 (0.937)	160481	55	27		
44 Dimethylphthalate	163.00	7.818 (0.962)	536535	56	23		
45 Acenaphthylene	152.00	7.949 (0.978)	719482	54	27		
46 2,6-Dinitrotoluene	165.00	7.916 (0.974)	128159	55	23		
47 3-Nitroaniline	138.00	8.080 (0.995)	137432	55	28		
* 48 Acenaphthene-d10	164.00	8.124 (1.000)	275750	40			
49 Acenaphthene	153.00	8.157 (1.004)	416465	54	27		
50 2,4-Dinitrophenol	184.00	8.201 (1.009)	48660	50	25		
51 Dibenzofuran	168.00	8.332 (1.026)	610854	56	28		
52 2,4-Dinitrotoluene	165.00	8.354 (1.028)	155611	54	27		
53 4-Nitrophenol	109.00	8.332 (1.026)	72215	55	27		
54 Diethylphthalate	149.00	8.617 (1.061)	538184	59	30		
55 4-Chlorophenyl-phenylether	204.00	8.704 (1.071)	206003	55	28		
56 Fluorene	166.00	8.726 (1.074)	474837	56	28		
57 4-Nitroaniline	138.00	8.781 (1.081)	118058	56	23		
58 4,6-Dinitro-2-methylphenol	198.00	8.836 (0.903)	68301	52	26		
59 n-Nitrosodiphenylamine	169.00	8.847 (0.904)	299745	55	27		
60 1,2-Diphenylhydrazine	77.00	8.880 (0.907)	1112421	56	28		
\$ 61 2,4,6-Tribromophenol	329.70	9.033 (0.923)	54758	54	27		
62 4-Bromophenyl-phenylether	248.00	9.252 (0.945)	102315	53	26		
63 Hexachlorobenzene	283.70	9.449 (0.965)	117316	52	26		
64 Pentachlorophenol	266.00	9.657 (0.987)	48225	49	24		
* 65 Phenanthrene-d10	138.00	9.789 (1.000)	336972	40			
66 Phenanthrene	178.00	9.822 (1.003)	584326	54	27		
67 Anthracene	178.00	9.866 (1.008)	564240	53	26		
68 Carbazole	167.00	10.052 (1.027)	504857	56	23		
69 Di-n-butylphthalate	149.00	10.434 (1.066)	686267	54	27		
70 Fluoranthene	202.00	11.199 (1.144)	431489	54	27		
71 Pyrene	202.00	11.484 (0.866)	408435	59	30		
\$ 72 Terphenyl-d14	244.00	11.637 (0.878)	250616	56	23		
73 Butylbenzylphthalate	149.00	12.304 (0.928)	240071	56	28		
74 3,3'-Dichlorobenzidine	252.00	13.156 (0.993)	95596	54	27		
75 Benzo[a]anthracene	228.00	13.223 (0.997)	270098	53	26		
* 76 Chrysene-d12	240.00	13.256 (1.000)	146532	40			
77 bis(2-Ethylhexyl)phthalate	149.00	13.211 (0.997)	311645	55	27		
78 Chrysene	228.00	13.300 (1.003)	261230	56	23		

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	REL RT		ON-COLUMN (ng)	FINAL (ug/L)
=====	====	==	=====	=====	=====	=====
79 Di-n-octylphthalate	149.00	14.338	(0.885)	578425	54	27
80 Benzo(b)fluoranthene	252.00	15.322	(0.945)	289408	55	28
81 Benzo(k)fluoranthene	252.00	15.366	(0.948)	268710	50	25
82 Benzo(a)pyrene	252.00	16.076	(0.992)	247673	54	27
83 Perylene-d12	264.00	16.208	(1.000)	160474	40	
84 Indeno(1,2,3-cd)pyrene	276.00	19.442	(1.200)	296183	54	27
85 Dibenzo(a,h)anthracene	278.00	19.486	(1.202)	231185	53	26
86 Benzo(g,h,i)perylene	276.00	20.404	(1.253)	255601	56	28

Data File: /chem/j.i./j940617.b/j168cc1.d
 Date : 17-JUN-1994 09:39
 Instrument : j.i
 Sample ID :
 Column phase : J&W DB-5
 Volume Injected (ul) : 2.0

Page 4

Column diameter : 0.25



SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168sbk1.d

Lab. Id. :

Quant Type: ISTD

Inj Date : 17-JUN-1994 12:52

Autotune Date: {

Operator : LH

Inst ID: j.i

Smp Info : 940615SNB1

Misc Info : 940615SNB1

Comment :

Method : /chem/j.i/j940617.b/jclps.m

Meth Date : 22-Jun-1994 13:38 liping

Cal Date : 17-JUN-1994 09:39

Cal File: j168cc1.d

Als bottle: 7

Dil Factor: 1.000

Target Version: Target 3.00

Integrator: HP RTE

Compound Sublist: all.sub

Sample Matrix: SOIL

Compounds	QUANT SIG		CONCENTRATIONS			
	MASS	RT	REL RT	RESPONSE	ON-COLUMN	FINAL
					(ng)	(ug/Kg)
-----	----	==	-----	-----	-----	-----
\$ 3 2-Fluorophenol	112.00	3.688	(0.772)	569982	110	1800
\$ 5 Phenol-d5	99.00	4.484	(0.938)	708161	100	1700
\$ 8 2-Chlorophenol-d4	132.00	4.615	(0.966)	639570	100	1800
* 11 1,4-Dichlorobenzene-d4	152.00	4.779	(1.000)	144227	40	
\$ 13 1,2-Dichlorobenzene-d4	152.00	4.976	(0.615)	291824	68	1100
\$ 23 Nitrobenzene-d5	82.00	5.358	(0.875)	502472	79	1300
* 32 Naphthalene-d8	136.00	6.122	(1.000)	514970	40	
\$ 40 2-Fluorobiphenyl	172.00	7.321	(0.904)	861455	84	1400
* 48 Acenaphthene-d10	164.00	8.096	(1.000)	319160	40	
\$ 61 2,4,6-Tribromophenol	329.70	9.012	(0.922)	169927	110	1900
* 65 Phenanthrene-d10	188.00	9.776	(1.000)	455663	40	
\$ 72 Terphenyl-d14	244.00	11.632	(0.879)	710333	84	1400
* 76 Chrysene-d12	240.00	13.229	(1.000)	246231	40	
* 83 Perylene-d12	264.00	16.186	(1.000)	117924	40	

SPL Houston Labs

RECOVERY REPORT

Client Name: Client SDG: j940617.b
Sample Matrix: SOLID Fraction: SV
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 8270s.spk Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 940615SNB1

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
\$ 3 2-Flucrophenol	150	110	71.04	25-121
\$ 5 Phenol-d5	150	100	68.41	24-113
\$ 8 2-Chlorophenol-d4	150	100	70.06	20-130
\$ 13 1,2-Dichlorobenzen	100	68	68.52	20-130
\$ 23 Nitrobenzene-d5	100	79	79.48	23-120
\$ 40 2-Fluorobiphenyl	100	84	84.04	30-115
\$ 61 2,4,6-Tribromophen	150	110	76.50	19-122
\$ 72 Terphenyl-d14	100	84	84.34	18-137

* - Values outside of QC limits

Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: j.i
 Lab File ID: j168sbk1.d
 Lab Sample ID:
 Analysis Type: SV
 Quant Type: ISTD
 Method File: /chem/j.i/j940617.b/jclps.m
 Misc Info: 940615SNB1

Calibration Date: 06/17/94
 Calibration Time: 0939
 Sample Type: SOIL
 Level: LOW

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	121206	60603	242412	144227	18.99
32 Naphthalene-d8	445390	222695	890780	514970	15.62
48 Acenaphthene-d10	275750	137875	551500	319160	15.74
65 Phenanthrene-d10	336972	168486	673944	455663	35.22
76 Chrysene-d12	146532	73266	293064	246231	68.04
83 Perylene-d12	160474	80237	320948	117924	-26.52

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.46
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.21
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.35
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.13
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.20
83 Perylene-d12	16.21	15.71	16.71	16.19	-0.14

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i./j940617.b/j168sbk1.d

Date : 17-JUN-1994 12:52

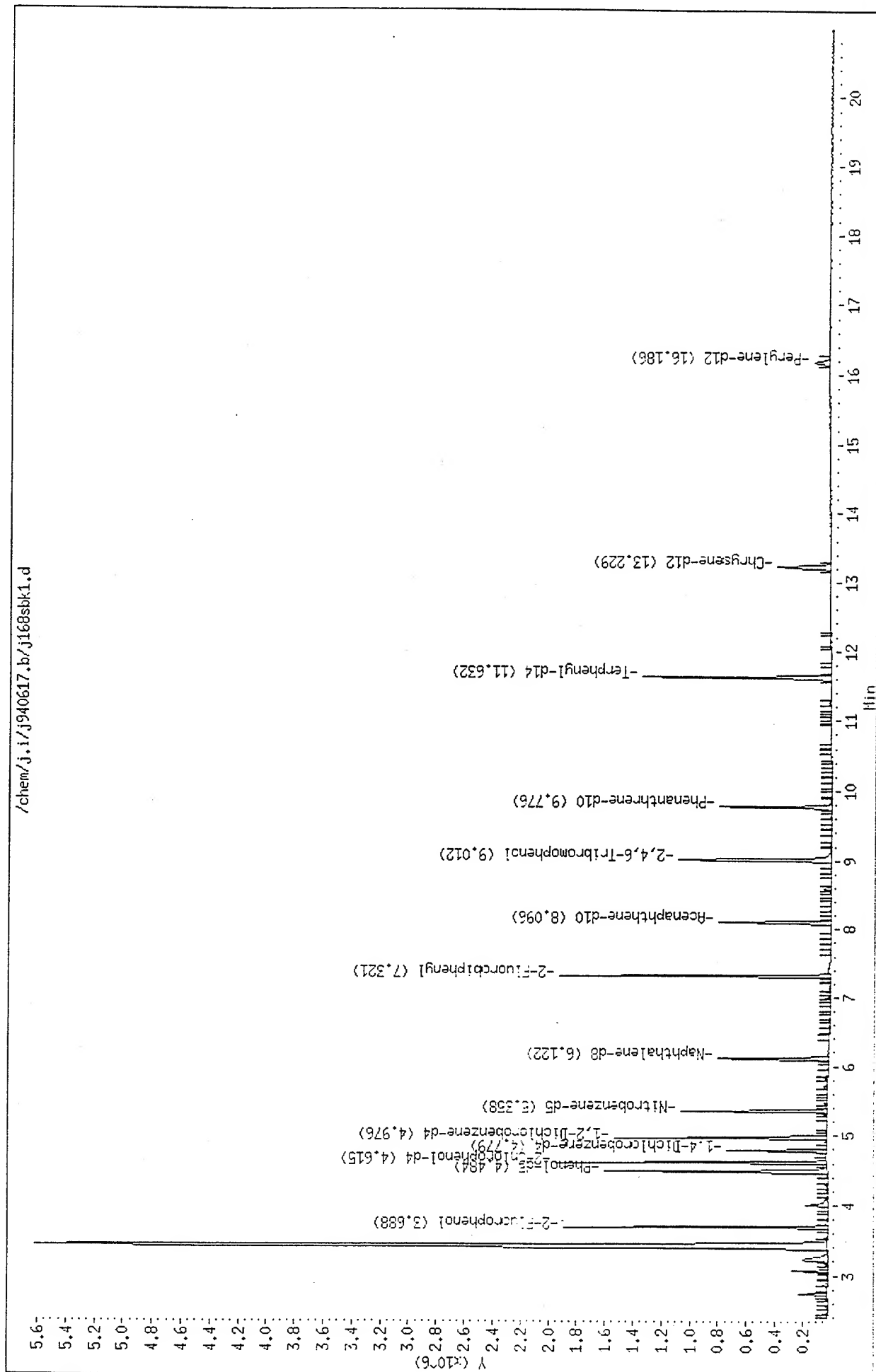
Instrument : j.i

Sample ID :

Column phase : J&W DB-5

Volume Injected (uL) : 2.0

Column diameter : 0.25





Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

PARAMETER		ANALYTICAL DATA		
		RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel		17	4 P	mg/Kg
Surrogate				
n-Pentacosane	% Recovery	220 *		
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction		06/08/94		
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total		ND	0.6	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total		16	0.2 I	mg/Kg
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total		0.6	0.1 I	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

(P) - Practical Quantitation Limit
// - Defined in attachment.

* - Defined in attachment.
ND - Not detected.

I - Instrument detection
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	1.20	0.05		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	7	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	24	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	5	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	14	1.0 M		mg/Kg

ND - Not detected.

M - Methods detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 16:20:00

SAMPLE ID: A-01 BH Int.1

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	15	2		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg

// - Defined in attachment.

ND - Not detected.

M - Methods detection li

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57	0.8 M	mg/Kg	

ND - Not detected.

M - Methods detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 16:28:00

SAMPLE ID: A-01 BH Int.2

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
Total Petroleum Hydrocarbons-Diesel	4.4		4 P	mg/Kg
Surrogate	% Recovery			
n-Pentacosane		148 *		
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction		06/08/94		
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND		0.6	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	2		0.2 I	mg/Kg
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	0.6		0.1 M	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

(P) - Practical Quantitation Limit

* - Defined in attachment.

// - Defined in attachment.

ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.03	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	7	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	12	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	15	1		wt. %

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	4.0	1.0 M		mg/Kg
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	5.7	0.4		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg

ND - Not detected.

// - Defined in attachment.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 16:28:00

SAMPLE ID: A-01 BH Int.2

DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg	
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg	
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	24	0.8 M	mg/Kg	

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 16:55:00

SAMPLE ID: A-02 BH Int.1

DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	71	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane	478 *		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	2	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.8	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.

* - Defined in attachment.
ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

PARAMETER		ANALYTICAL DATA		
		RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total		0.17	0.01	mg/Kg
METHOD 7131 ***				
Analyzed by: WFL				
Date: 06/16/94				
Chromium, Total		5	1	mg/Kg
METHOD 7191 ***				
Analyzed by: WFL				
Date: 06/17/94				
Copper, Total		25	0.3 M	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Mercury, Total		ND	0.02 M	mg/Kg
METHOD 7471 ***				
Analyzed by: JM				
Date: 06/08/94				
Moisture, E.P.A.		15	1	wt. %
METHOD CLP SOW				
Analyzed by: ST				
Date: 06/06/94				
Nickel, Total		10	1.0 M	mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10.0	0.4		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg

// - Defined in attachment.

ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 16:55:00

SAMPLE ID: A-02 BH Int.1

DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	50	0.8 M mg/Kg	

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg	
Surrogate	% Recovery			
n-Pentacosane	81			
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction	06/08/94			
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND	0.6	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	ND	0.2 I	mg/Kg	
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	1.0	0.1 M	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

(P) - Practical Quantitation Limit

I - Instrument detection limit

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	1	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	20	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	1.0 M		mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10	2		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	5.7	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg

// - Defined in attachment.

ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	43	0.8 M		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg	
Surrogate	% Recovery			
n-Pentacosane	87			
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction	06/08/94			
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND	0.6	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	4	1	mg/Kg	
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	0.8	0.4	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

(P) - Practical Quantitation Limit

// - Defined in attachment.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	9	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	28	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	18	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	12	6	mg/Kg

ND - Not detected.

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 15:50:00

SAMPLE ID: A-03 BH Int.1

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		
	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	9	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.

M -Method detection limit

I -Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg	
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	55	1	mg/Kg	

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg	
Surrogate	% Recovery			
n-Pentacosane	88			
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction	06/08/94			
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND	0.6	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	12	5	mg/Kg	
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	1.0	0.4	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	16	10		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	35	1		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	18	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	14	6		mg/Kg

ND - Not detected.

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 15:55:00

SAMPLE ID: A-03 BE Int.2

DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.

I -instrument detection limit M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND		0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57		1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Total Petroleum Hydrocarbons-Diesel Mod. 8015 - Diesel Analyzed by: SEG Date: 06/13/94 11:22:01	1600	100 P	mg/Kg	
Sonication extraction METHOD 3550 Analyzed by: LJ Date: 06/08/94	06/08/94			
Silver, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	0.6	mg/Kg	
Arsenic, Total METHOD 7060 *** Analyzed by: WFL Date: 06/15/94	9	0.2 I	mg/Kg	
Beryllium, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	0.6	0.1 M	mg/Kg	
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	2.60	0.05	mg/Kg	

(P) - Practical Quantitation Limit

ND - Not detected.

I - Instrument detection limit M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	5	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	27	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	9	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1.0 M		mg/Kg

ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 11:20:00

SAMPLE ID: A-04 BH Int.1

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	16	2		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	0.4	0.2 I		mg/Kg

ND - Not detected.

M - Method detection limit

I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	96	10		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Total Petroleum Hydrocarbons-Diesel	ND	4 P		mg/Kg
Surrogate	% Recovery			
n-Pentacosane				
Mod. 8015 - Diesel				
Analyzed by: SEG	94			
Date: 06/13/94 11:22:01				
Sonication extraction				
METHOD 3550	06/08/94			
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND	0.6		mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	6	0.2 I		mg/Kg
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	0.8	0.1 M		mg/Kg
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

(P) - Practical Quantitation Limit
I - Instrument detection limit

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.03	0.01	mg/Kg	
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	8	1	mg/Kg	
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	15	0.6 M	mg/Kg	
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg	
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	16	1	wt. %	
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1 M	mg/Kg	

ND - Not detected.

M - Method detection limits

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10.0	0.4		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg

ND - Not detected.

M - Method detection limit

I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	33	0.8 M		mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		
	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	370	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane	75		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	15	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.6	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit // - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.75	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	30	10		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	20	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	4	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	8	1 M		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

SITE:

PROJECT NO: 1308-191

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 13:15:00

SAMPLE ID: A-05 BH Int.1

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	23	2		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	4.4	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	0.6	0.2 I		mg/Kg

ND - Not detected.

M - Method detection limit

I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

PROJECT NO: 1308-191

SITE:

MATRIX: SOIL

SAMPLED BY: Operational Technologies

DATE SAMPLED: 06/02/94 13:15:00

SAMPLE ID: A-05 BH Int.1

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	91	10		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg	
Surrogate	% Recovery			
n-Pentacosane	92			
Mod. 8015 - Diesel				
Analyzed by: SEG				
Date: 06/13/94 11:22:01				
Sonication extraction	06/08/94			
METHOD 3550				
Analyzed by: LJ				
Date: 06/08/94				
Silver, Total	ND	0.6	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				
Arsenic, Total	ND	5	mg/Kg	
METHOD 7060 ***				
Analyzed by: WFL				
Date: 06/15/94				
Beryllium, Total	1.2	0.1 M	mg/Kg	
METHOD 6010 ***				
Analyzed by: DQ				
Date: 06/15/94				

ND - Not detected.

M- Method detection limit

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.02	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	10	4		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	0.6 M		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	16	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1.0 M		mg/Kg

ND - Not detected.

M- Method detection limit

Notes: **Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

***Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station

SITE:

SAMPLED BY: Operational Technologies

SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191

MATRIX: SOIL

DATE SAMPLED: 06/02/94 13:18:00

DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		
	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	9.4	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	3.3	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg	
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	30	0.8 M	mg/Kg	

ND - Not detected.

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	20	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane			
Mod. 8015 - Diesel	153 *		
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	6	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.7	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.

* - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.90	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	10	2		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	1		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/K
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	15	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	17	6		mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	16	2		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg

ND - Not detected.

M - Method detection limit

I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57	1		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane	86		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	2	1	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			

ND - Not detected.

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Beryllium, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	0.1 M		mg/Kg
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.01	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	2.3	0.2		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	6	1		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	13	1		wt. %

ND - Not detected.

M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	1.0 M		mg/K
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	4.9	0.4		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/Kg
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	20	1		mg/Kg

ND - Not detected.

I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	23	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane	130		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	8	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.7	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit // - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.19	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	8	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	17	1		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	8	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	6		mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	8.4	0.4		mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M		mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I		mg/

ND - Not detected.

M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	49	1		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	% Recovery		
n-Pentacosane	86		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	9	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.9	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.

(P) - Practical Quantitation Limit

// - Defined in attachment.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.08	0.01		mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	9	1		mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	1		mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M		mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	17	1		wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	16	6		mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
 EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94			
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	11	4	mg/Kg	
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg	
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg	

ND - Not detected.

M -Method detection limit I -Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
 ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

PARAMETER	ANALYTICAL DATA			UNITS
	RESULTS	DETECTION LIMIT		
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4		mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	52	1		mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.



Matrix: Soil
Sample ID: 9406272-01B
Batch ID: VARC940613112201

Reported on: 06/21/94 08:23:57
Analyzed on: 06/13/94 11:22:01
Analyst: SEG


This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Petroleum Hydrocarbons-Diesel (Soil)
Mod. 8015 - Diesel

COMPOUND	Sample Value mg/Kg	Spike Added mg/Kg	MS % Recovery #	MSD % Recovery #	Relative % Difference #
Petroleum Hydrocarbons	4.8	258.45	107	98	9

NOTES

column to be used to flag recovery and RPD values with an asterisk
* values outside of QC Limits.


Idelis Williams, QC Officer



SPL QUALITY CONTROL SUMMARY

Rev. 01

Atomic Absorption Analysis

Element: As
Test Code: P30509
Method: GFFAA
Instrument: 3030Z

Date: 6/15/94
Time: 07:18
File #: 0615A

Analyst: WFC
Matrix: ☒ Soil ☐ Water

Units: mg/kg
Leachate: ☐ Water ☐ Oil ☐ Other

Sample #'s in Batch

06119-1C-14			
06220-1D, 2D			
06221-1D-4D			

Blank and Check Standard

Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Matrix Spike and Spike Duplicate Data			
					Spike Added	Spike Conc.	Spike Dup. Conc.	Spike Dup. % Rec
06220-2D UD		112.0	102.0%	UD	40.0	35.6	34.9	89.0%
06378-7C UD		112.0	100.4%	12.5	40.0	56.1	55.9	109.0%

FLAGS

- ☐ * = Values Outside QC Range
- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☒ RPD out of QA/QC Limits (20 %)
- ☒ Soil LCS % Rec. Range 54.7 - 166
- ☒ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst: William F. Gwalt Date: 6/15/94
Approved By: [Signature] Date: 6/15/94
[Signature] Date: 6/15/94
Idelis Williams, QC Officer



SPL QUALITY CONTROL SUMMARY

Rev. 4/91

Atomic Absorption Analysis

Element: cd
Test Code: P30504
Method: GF-AAS
Instrument: 30302

Date: 6/16/94
Time: 11:10
File #: 06160B

Analyst: WFC
Matrix: ☒ Soil ☐ Water

Units: mg/kg

Leachate: ☐ Water ☐ Oil ☐ Other

Sample #'s in Batch

06119-c-14c

Blank and Check Standard

Matrix Spike and Spike Duplicate Data

Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike Dup. % Rec.	Spike Dup. % RPD
06220-20	MS	131.0	82.0%	0.57	5.00	4.54	4.66	79.4%	81.4%

FLAGS *

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☐ RPD out of QA/QC Limits (20 %)
- ☐ Soil LCS % Rec. Range 65.3-183
- ☒ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst: Wally Fegus Date: 6/16/94
Approved By: [Signature] Date: 6/17/94
[Signature] Date: 6/17/94
Idelis Williams, QC Officer

SPL QUALITY CONTROL SUMMARY

Rev. 194

Atomic Absorption Analysis

Element: CK
Test Code: P3050G
Method: GCFAA
Instrument: 30302

Date: 6/17/94
Time: 07:15
File #: 0617A

Units wcylf-g

Water

Soll

Leachate: ☐ Water ☐ Soil

☐ Oil ☐ Other

Sample #'s in Batch

[illegible][illegible]

• FLAGIS •

- = Values Outside QC Range
 MS or MSD out of QA/QC Limits (% Rec. 75-125)
 RPD out of QA/QC Limits (20 %)
 Soil LCS % Rec. Range 110 - 261
 Sample used for QA/QC only
 See Case Narrative

Analyst Waller, T Date 6/17/94

Approved By K. Umber Date 6/17/94

Signature _____ Date: 12/1/2011

Idelis Williams, QC Officer



SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev. 4/91

Element: Hg
Test Code: HgSC
Method: 7471
Instrument: 83030

Date: 6/8/94
Time: 15:05
File #: 0008E

Analyst: JM
Matrix: ☒ Soil ☐ Water

Units: mg/kg

Leachate: ☐ Water ☐ Oil ☐ Other

Sample #'s in Batch

9405040-11B-18B	9405083-3D	9405000-10, 20, 40, 50, 60, 70, 80	10A, 12C - AC
9405002-15C	9405038-1C, 2C	9405039-1A - 4A	19A, 20A, 25A, 26A
9405045-2C, 3C, 4C, 5C, 7C, 8C, 10C-13C		9405046-32A	
9406012-1A, 3E, 4C-6C		9406019-1C-14C	
9406220-1D, 2D		9406221-1D-4D	

Sample ID	Blank and Check Standard		Matrix Spike and Spike Duplicate Data		Sample Conc.	Matrix Spike and Spike Duplicate Data			Spike Dup. % Rec.	% RPD
	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Spike Added		Spike Conc.	Spike Dup. Conc.	Spike % Rec.		
9405040-11B	#1 ND	32.0	#1 74.6*	2.00	0.25	2.04	1.98	89.5	86.5	3
9405000-1C	#2 ND	32.0	#2 62.4*		ND	2.08	1.97	104.0	98.5	5
9406012-1A	#3 ND	32.0	#3 72.2*		ND	1.68	2.04	84.0	102.0	19
9406221-1D	#4 ND	32.0	#4 100.2	✓	ND	2.36	2.21	118.0	110.5	7

FLAGS * ☐ Values Outside QC Range
☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
☐ RPD out of QA/QC Limits (20 %)
☒ Soil LCS % Rec. Range (53-150)
☐ Sample used for QA/QC only
☐ See Case Narrative

Analyst: Jane Manogue Date: 6/8/94
Approved By: Paul Chudal Date: 6/9/94
J Williams Date: 6/9/94
Idelis Williams, QC Officer



Wet Chemistry QA/QC Validation Report

Test Name: moistureSAM Test Code: moisepDate: 6/6/94Analyst: STMethod GravimetricTime: 2:00 pmMatrix ☐ Liquid ☒ Soil ☐ Other# of Samples in Batch: 25Reporting Units: % weight

SPL Sample #'s in Batch:

9406068-3C → 4C	9406119-1C → 14C	
9406055-4C		
9406112-1A, 3E, 4C → 6C		
9406121-1A → 3A		

Standards	Actual Concentration	Theoretical Concentration	Percent Recovery	QC Limits (**) (Mandatory)	
				Upper Limit	Lower Limit
Blank					
Check Standard 1					
Check Standard 2					
Check Standard 3					
LCS (Outside Source)					

DUPLICATES

QA/QC Duplicate SPL Sample ID	Sample Result <1>	Sample Result <2>	Relative Percent Difference	QC LIMITS (**) (Advisory)	
				Relative Percent Difference Max.	
9406055-4C	12	12	0	30.4	
9406112-6C	18	20	10.5		
9406119-6C	12	13	8.0		
9406119-10C	17	18	5.7		
9406119-14C	20	20	0		✓

Relative Percent Difference (RPD) Calculation:

$$RPD = \frac{<1> - <2>}{(|<1> + <2>| \times 0.5)} \times 100$$

(**) = Source: SPL Houston Historical Data

* = Indicates Value Outside QA/QC Range

Approved By: [Signature]Date: 6/7/94Reviewed By: [Signature]Date: 6/7/94[Signature]
Idelis Williams, QC OfficerDate: 6/7/94



SPL QUALITY CONTROL SUMMARY

Rev. 4/94

Atomic Absorption Analysis

Element: PB
Test Code: P3050G
Method: GFAA
Instrument: 30302

Date: 6/15/94
Time: 07:15
File #: 0615A

Analyst: WFC
Matrix: Sol

Leachate: ☐ Water ☐ Oil
☐ Soil ☐ Other

Units: mg/kg

Sample #'s in Batch

06119-0-14c	06378-7c			
06282-5b				
06298-1c				
06405-3c4c				
06348-7b				

Blank and Check Standard

Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike Dup. % Rec.	% RPD
06378-7c	ND	122.0	85.7%	41.0	40.0	20.0	71.2	72.5%	4
0620-2b	ND	122.0	73.9%	16.3	40.0	46.4	46.8	75.2%	1

AGS *

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
☐ RPD out of QA/QC Limits (20 %)
☒ Soil LCS % Rec. Range 62.3 - 178
☒ Sample used for QA/QC only
☒ See Case Narrative

* = Values Outside QC Range

MS or MSD out of QA/QC Limits (% Rec. 75-125)

RPD out of QA/QC Limits (20 %)

Soil LCS % Rec. Range 62.3 - 178

Sample used for QA/QC only

See Case Narrative

Analyst: Wally Fegwal Date: 6/15/94
Approved By: R. Anderson Date: 6/15/94
S. Williams Date: 6/16/94
Idelis Williams, QC Officer



SPL QUALITY CONTROL SUMMARY

Rev 004

Atomic Absorption Analysis

Element: Sr
Test Code: P3050G
Method: GF-AA
Instrument: 30302

Date: 6/15/94
Time: 12:49
File #: 0615B

Analyst: WFE
Matrix: Sol
Units: mg/kg

Leachate: ☒ Soil ☐ Water ☐
☐ Oil ☐ Other

Sample #'s in Batch

16119-1c-14c			
26220-1b-2d			
26221-1b-4d			
16062-1B-3B			

Blank and Check Standard

Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
6220-2B	MB	122.0	81.8%	MB	30.0	28.2	28.6	94.0%	95.3%	1
6378-7c	MB	122.0	105.1%	MB	30.0	26.0	28.4	86.7%	94.7%	9
6062-3B	MB	122.0	104.4%	49.4	30.0	78.0	79.2	95.3%	99.3%	4
LCS 6/14	MB	122.0	95.7%	MB	30.0					

LAGS *

- ☐
- ☐
- ☒
- ☒
- ☐

* = Values Outside QC Range

MS or MSD out of QA/QC Limits (% Rec. 75-125)

RPD out of QA/QC Limits (20 %)

Soil LCS % Rec. Range 62.3 - 178.0

Sample used for QA/QC only

See Case Narrative

Analyst: Walley Fagard Date: 6/15/94
Approved By: [Signature] Date: 6/16/94
Idelis Williams, QC Officer Date: 6/16/94

0616B

PROGRAMMING MODE INSTRUMENT USER METH # 11 - CD DATE: 04/06/16

ELEMENT: CD WAVELENGTH (NM): 228.8 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATPIX MOD.
PRETREAT TEMP: 900 ATOMIZE TEMP: 1600 CHARACTER, MASS (PG) 0.35

- 1. TECHNIQUE: ZEEMAN
- 2. LAMP CURRENT (MA): 5
- 3. SIGNAL PROCESSING: PEAK AREA
- 4. CALIBRATION: AUTO SELECT
- 5. TIME (SECONDS): 5.0
- 6. READ DELAY (SECONDS): 0.0
- 7. SCREEN FORMAT: 1.0 GRAPHICS
- 8. PRINTER: MAIN SUPPL
- 9. RECORDER SIGNAL: 0.2 CONT ABS
- 10. RECORDER EXP: 1000
- 11. STATISTICS: 2 AVERAGE & CV
- 12. NOMINAL WEIGHT 1.0
- 13. ROLLOVER(AES): 1.000
- 14. EC SCALE: 1.0

15. S1: 2.50 16. S2: 5.00 17. S3: 10.00
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. S9: 5.00

0616B

CD TIME: 11:10

PEAK HEIGHT (ABSORBANCE) AA 0.010 ZAA 0.010 PG 0.002
PEAK AREA (ABS-SECONDS) 0.007 0.007 0.007

READ: 0.006

PEAK HEIGHT (ABSORBANCE) AA 0.008 ZAA 0.009 PG 0.002
PEAK AREA (ABS-SECONDS) 0.001 0.002 0.002

READ: 0.001

MEAN= 0.004 STD. DEV.= COEF. VAR.= 87.41 %

0.000 AUTOZERO

CD

PEAK HEIGHT (ABSORBANCE) AA 0.679 ZAA 0.570 PG 0.100
PEAK AREA (ABS-SECONDS) 0.390 0.330 0.360

READ: 0.325

PEAK HEIGHT (ABSORBANCE) AA 0.680 ZAA 0.570 PG 0.110
PEAK AREA (ABS-SECONDS) 0.391 0.329 0.062

READ: 0.324

MEAN= 0.325 STD. DEV.= COEF. VAR.= 0.20 %

2.50 STANDARD 1

CD

PEAK HEIGHT (ABSORBANCE) AA 1.158 ZAA 0.951 PG 0.209
PEAK AREA (ABS-SECONDS) 0.710 0.595 0.111

Copy

CD

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.013
0.005
ZAA 0.012
0.007
EG 0.002
0.002

READ: 0.002

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.009
0.004
ZAA 0.009
0.004
EG 0.001
0.001

READ: -0.001

MEAN= 0.001 STD.DEV.=
0.000 AUTOZERO

(CD)

COEF.VAR.= 99.999

BLK

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.656
0.393
ZAA 0.595
0.321
EG 0.111
0.06

READ: 0.315

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.652
0.378
ZAA 0.544
0.317
EG 0.113
0.061

READ: 0.311

MEAN= 0.313 STD.DEV.=
2.50 STANDARD

(CD)

COEF.VAR.= 0.53

S

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 1.116
0.693
ZAA 0.909
0.569
EG 0.313
0.114

READ: 4.49

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 1.107
0.686
ZAA 0.894
0.568
EG 0.311
0.118

READ: 4.49

MEAN= 4.49 STD.DEV.=
4.49

(CD)

COEF.VAR.= 0.06

S

E-50: READING GREATER THAN HIGHEST STANDARD

5.00

PEAK HEIGHT (ABSORBANCE) 1.617 1.242 0.404
PEAK AREA (ABS-SECONDS) 1.157 0.919 0.234

READ: 9.64

(CONTINUED)

PEAK HEIGHT (ABSORBANCE) AA 7AA
PEAK AREA (ABS-SECONDS) 1.602 1.197 1.0
1.168 0.925 0.417
0.234

READ: 9.74

MEAN= 9.69 STD.DEV.= 0.93 %
***** COEF.VAR.= 0.93 %
9.69

E-50: READING GREATER THAN HIGHEST STANDARD

10.00 STANDARD 3

CD 0005

PEAK HEIGHT (ABSORBANCE) AA
PEAK AREA (ABS-SECONDS) 1.114 0.900 0.217
0.690 0.565 0.125

READ: 4.96

PEAK HEIGHT (ABSORBANCE) AA
PEAK AREA (ABS-SECONDS) 1.108 0.894 0.210
0.698 0.569 0.129

READ: 5.01

MEAN= 4.98 STD.DEV.= 0.78 %
***** COEF.VAR.= 0.78 %
CD 0006

PEAK HEIGHT (ABSORBANCE) AA
PEAK AREA (ABS-SECONDS) 0.011 0.010 0.003
0.003 0.002 0.001

READ: -0.03

PEAK HEIGHT (ABSORBANCE) AA
PEAK AREA (ABS-SECONDS) 0.008 0.006 0.003
0.002 0.003 0.001

READ: -0.02

MEAN= -0.02 STD.DEV.= 18.27 %
***** COEF.VAR.= 18.27 %
CD 0007

PEAK HEIGHT (ABSORBANCE) AA
PEAK AREA (ABS-SECONDS) 0.008 0.007 0.003
0.002 0.002 0.001

READ: 0.00

PEAK AREA (ABS-SECONDS)

READ: -0.04

MEAN= -0.04 STD.DEV.=

CD 0008

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 5.43

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 5.32

MEAN= 5.37 STD.DEV.=

CD 0009

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 85.88

CD 0010

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 0.24

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 0.25

MEAN= 0.25 STD.DEV.=

CD 0011

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 7.64

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 7.35

MEAN= 7.49 STD.DEV.=

CD 0012

0.000

PB 6/10/90

0.001

COEF.VAR.= 35.30

AA

1.128

0.755

ZAA

0.884

0.606

EG

0.248

0.140

(5.37)(200)(100)

107.4

AA

1.116

0.746

ZAA

0.875

0.596

131.0

0.150

PBS

200X-22.0%

COEF.VAR.= 1.83

AA

1.611

2.397

ZAA

1.152

1.769

EG

0.170

0.111

See chart

06119-1c

AA

0.079

0.154

ZAA

0.063

0.031

EG

0.069

0.111

AA

0.079

0.057

ZAA

0.068

0.040

EG

0.014

0.011

-2c

COEF.VAR.= 1.64

AA

0.809

1.016

ZAA

0.668

0.775

EG

0.147

0.241

AA

0.780

0.979

ZAA

0.648

0.755

EG

0.135

0.224

-3c

COEF.VAR.= 3.52

READ: 0.19

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.068
0.127
ZAA 0.057
0.037
E 0.061
0.090

READ: 0.23

MEAN= 0.21 STD.DEV.=

COEF.VAR.= 14.82 %

CD 0013

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.530
1.162
ZAA 1.150
0.872
E 0.380
0.289

READ: 9.15

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.499
1.099
ZAA 1.151
0.848
E 0.360
0.251

READ: 8.75

MEAN= 8.95 STD.DEV.=

COEF.VAR.= 4.21 %

CD 0014

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.051
0.038
ZAA 0.042
0.022
E 0.010
0.017

READ: 0.12

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.045
0.025
ZAA 0.038
0.018
E 0.009
0.007

READ: 0.09

MEAN= 0.11 STD.DEV.=

COEF.VAR.= 20.20 %

CD 0015

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.466
0.389
ZAA 0.388
0.246
E 0.078
0.143

READ: 1.87

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.473
0.404
ZAA 0.394
0.250
E 0.073
0.139

READ: 1.30

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.240
0.183

0.199
0.120

0.043
0.067

READ: 0.85

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.220
0.146

ZAA
0.182
0.110

EG
0.037
0.035

READ: 0.78

MEAN= 0.81 STD.DEV.=

COEF.VAR.= 6.41

CD 0.017

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.143
0.093

ZAA
0.116
0.067

EG
0.028
0.027

READ: 0.45

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.136
0.094

ZAA
0.112
0.066

EG
0.074
0.029

READ: 0.44

MEAN= 0.44 STD.DEV.=

COEF.VAR.= 1.39

CD 0.013

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.139
0.085

ZAA
0.117
0.064

EG
0.023
0.021

READ: 0.42

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.138
0.087

ZAA
0.116
0.064

EG
0.037
0.034

READ: 0.42

MEAN= 0.42 STD.DEV.=

COEF.VAR.= 0.01

CD 0.013

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.109
0.746

ZAA
0.897
0.609

EG
0.271
0.149

READ: 5.46

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.102
0.737

ZAA
0.894
0.602

EG
0.210
0.135

READ: 5.30

MEAN= 5.42 STD.DEV.=

COEF.VAR.= 1.17

CD 0.013

CD 0020

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.03

AA 0.018
0.014
ZAA 0.016
0.009
BC 0.004
0.005

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.01

AA 0.015
0.011
ZAA 0.014
0.008
BC 0.004
0.003

MEAN= 0.02 STD.DEV.=

COEF.VAR.= 45.98

CD 0021

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 15.79

AA 1.500
1.506

ZAA 1.174
1.174
BC 0.327
0.333

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 15.41

AA 1.436
1.491

ZAA 1.145
1.162
BC 0.299
0.333

MEAN= 15.60 STD.DEV.=

COEF.VAR.= 2.54

15.60

E-50: READING GREATER THAN HIGHEST STANDARD

CD 0022

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.27

AA 0.090
0.069

ZAA 0.075
0.043
BC 0.016
0.036

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.24

AA 0.079
0.053

ZAA 0.065
0.030
BC 0.014
0.013

MEAN= 0.26 STD.DEV.=

COEF.VAR.= 9.55

CD 0023

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 1.72

AA 0.431
0.299

ZAA 0.358
0.229
BC 0.075
0.071

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.444
0.286

ZAA 0.370
0.273
BC 0.074
0.063

CD 0024

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.108
0.079
ZAA 0.091
0.056
EG 0.020
0.023

READ: 0.37

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.110
0.072
ZAA 0.091
0.054
EG 0.020
0.018

READ: 0.35

MEAN= 0.36 STD. DEV. =

COEF. VAR. = 3.42

CD 0025

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.166
0.116
ZAA 0.138
0.084
EG 0.024
0.012

READ: 0.58

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.161
0.109
ZAA 0.135
0.081
EG 0.024
0.012

READ: 0.55

MEAN= 0.57 STD. DEV. =

COEF. VAR. = 3.08

CD 0026

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.035
0.638
ZAA 0.855
0.522
EG 0.186
0.116

READ: 4.49

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.045
0.650
ZAA 0.858
0.530
EG 0.186
0.116

READ: 4.53

MEAN= 4.54 STD. DEV. =

COEF. VAR. = 1.53

CD 0027

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.049
0.648
ZAA 0.968
0.533
EG 0.190
0.115

READ: 4.61

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.055
0.665
ZAA 0.967
0.532
EG 0.190
0.115

READ: 4.71

MEAN=

06220-23 (0.814)

-23 571

-23 1212 571

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.778 0.644 0.134
0.753 0.579 0.175

READ: 5.12

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.772 0.640 0.134
0.748 0.577 0.171

READ: 5.10

MEAN= 5.11 STD.DEV.=

COEF.VAR.= 0.27

CD 0029

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.474 0.397 0.129
0.431 0.307 0.121

READ: 2.40

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.475 0.397 0.129
0.430 0.312 0.117

READ: 2.44

MEAN= 2.42 STD.DEV.=

COEF.VAR.= 1.45

CD 0030

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.767 0.635 0.138
0.753 0.586 0.173

READ: 5.20

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.764 0.633 0.121
0.756 0.585 0.177

READ: 5.19

MEAN= 5.19 STD.DEV.=

COEF.VAR.= 0.22

CD 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.010 0.002 0.005
0.013 0.004 0.009

READ: -0.01

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.008 0.008 0.008
0.012 0.008 0.008

ELEMENT: AS
 PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING
 PRETREAT TEMP: 1300 ATOMIZE TEMP: 2300
 WAVELENGTH (NM): 193.7 SLIT (MM): 0.1
 GAS STOP: 0.0013 MPa
 CHAPACT. MAG: 0.001 MPa

1. TECHNIQUE: ZEEMAN
2. SIGNAL PROCESSING: PEAK AREA
3. TIME (SECONDS): 5.0
4. CALIBRATION: LINEAR
5. SCREEN FORMAT: 1.0 GRAPHICS
6. READ DELAY (SECONDS): 1.0
7. RECORDER SIGNAL: 0.2 CONT ABS
8. PRINTER: MAIN SUPPL
9. STATISTICS: 2 AVERAGE & CV
10. RECORD DEF EXP: 1000
11. ROLLOVER(ABS): 2.000
12. NOMINAL HEIGHT: 1.0
13. BG SCALE: 1.0

15. S1: 25.0
 16. S2: 50.0
 18. S4:
 19. S5:
 21. S7:
 22. S8:

0615A

AS

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA 0.028
 ZAA 0.024
 0.026 0.005

PEAD: 0.005

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA 0.031
 ZAA 0.023
 0.030 0.009

READ: 0.009

MEAN= 0.007 STD.DEV.=

COEF.VAR.= 41.95

AUTOZERO

AS

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA 0.312
 ZAA 0.293
 0.159 0.135

READ: 0.128

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA 0.324
 ZAA 0.294
 0.171 0.140

READ: 0.133

MEAN= 0.130 STD.DEV.=

COEF.VAR.= 2.45

STANDARD

25.0

AS

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA 0.602
 ZAA 0.371
 0.304 0.274

0616119
 Tech

PEAK AREA (ABS-SECONDS) 0.309 0.274
READ: 51.2

S2

MEAN= 51.2 STD.DEV.= COEF.VAR.= 0.06

51.2

E-50: READING GREATER THAN HIGHEST STANDARD

50.2 STANDARD 2

AS

PEAK HEIGHT (ABSORBANCE) AA 1.228
PEAK AREA (ABS-SECONDS) 1.150
0.514

READ: 95.5

(CONTINUED)

PEAK HEIGHT (ABSORBANCE) AA 1.307
PEAK AREA (ABS-SECONDS) 1.241
0.557

READ: 94.3

S3

MEAN= 94.9 STD.DEV.= COEF.VAR.= 0.97

94.9

E-50: READING GREATER THAN HIGHEST STANDARD

98.7 STANDARD 3

AS 0005

PEAK HEIGHT (ABSORBANCE) AA 0.667
PEAK AREA (ABS-SECONDS) 0.232
0.050

READ: 47.5

PEAK HEIGHT (ABSORBANCE) AA 0.674
PEAK AREA (ABS-SECONDS) 0.308
0.271

TK

READ: 51.7

MEAN= 49.6 STD.DEV.= COEF.VAR.= 5.93

AS 0006

PEAK HEIGHT (ABSORBANCE) AA 0.028
PEAK AREA (ABS-SECONDS) 0.030
0.003

READ: 0.4

AS 0011

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
2.913
0.732

PS
1.890
1.179

READ: 141.9

E-87: VALUE GREATER THAN ROLLOVER ABSCREANCE

AS 0012

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
4.456
1.744

PS
3.030
1.179

READ: 54.9

E-87: VALUE GREATER THAN ROLLOVER ABSCREANCE

AS 0013

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
2.918
1.430

PS
1.890
1.179

READ: 53.4

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
4.459
1.438

PS
3.030
1.179

READ: 53.0

E-87: VALUE GREATER THAN ROLLOVER ABSCREANCE

MEAN= 53.2 STD.DEV. =

COEF. VAR. = 0.50

AS 0014

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
0.733
0.445

PS
0.640
0.122

READ: 22.4

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
0.633
0.454

PS
0.640
0.122

READ: 22.5

MEAN= 22.4 STD.DEV. =

COEF. VAR. = 0.16

AS 0015

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
4.464
1.527

PS
3.210
0.590

READ: 112.3

E-87: VALUE GREATER THAN ROLLOVER ABSCREANCE

AS 0016

PEAK HEIGHT (ABSCREANCE)
PEAK AREA (ABS-SECONDS)

AA
4.467
1.528

PS
3.210
0.590

AS 0017

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
2.347
1.471
TAA
0.640
0.193

READ: 36.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
2.242
1.453
TAA
0.652
0.246

READ: 47.1

MEAN= 41.8 STD.DEV.=

COEF.VAR.= 18.0

AS 0018

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
5.456
3.81
TAA
0.534
0.130

READ: 123.0

E-37: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0019

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.646
0.201
TAA
0.641
0.201

READ: 49.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.692
0.234
TAA
0.650
0.232

READ: 49.8

MEAN= 49.8 STD.DEV.=

COEF.VAR.= 0.17

AS 0020

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.026
0.031
TAA
0.020
0.011

READ: 0.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.026
0.034
TAA
0.020
0.009

READ: 0.4

MEAN= 0.6 STD.DEV.=

COEF.VAR.= 46.23

AS 0021

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
4.450
1.637
TAA
3.007
0.733

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 15.5

AA
1.106
0.626

PG
1.05
0.596

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 15.6

AA
1.196
0.677

ZAA
0.202
0.007

MEAN= 15.5 STD. DEV. =

COEF. VAP. = 0.00

AS 0023

-12c

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 23.9

AA
1.150
0.729

ZAA
0.232
0.009

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 24.2

AA
1.150
0.726

ZAA
0.205
0.131

MEAN= 24.1 STD. DEV. =

COEF. VAP. = 0.90

-13c

AS 0024

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 52.4

AA
5.441
2.010

ZAA
0.200
0.275

E-27: VALUE GREATER THAN FOLLOVER ABSORBANCE

AS 0025

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 3.5

AA
0.473
0.266

ZAA
0.072
0.025

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 6.6

AA
0.502
0.271

ZAA
0.077
0.041

MEAN= 5.1 STD. DEV. =

COEF. VAP. = 42.65

AS 0026

06220-13

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 7.1

AA
0.351
0.189

ZAA
0.095
0.012

2.1

READ: 6.6

MEAN= 6.8 STD. DEV. = COEF. VAR. = 5.4

AS 0027

PEAK HEIGHT (ABSORBANCE) AA 0.576
PEAK AREA (ABS-SECONDS) 0.354

READ: 34.6

PEAK HEIGHT (ABSORBANCE) AA 0.600
PEAK AREA (ABS-SECONDS) 0.373

READ: 35.6

MEAN= 35.6 STD. DEV. = COEF. VAR. = 3.94

AS 0028

PEAK HEIGHT (ABSORBANCE) AA 0.591
PEAK AREA (ABS-SECONDS) 0.357

READ: 34.1

PEAK HEIGHT (ABSORBANCE) AA 0.600
PEAK AREA (ABS-SECONDS) 0.360

READ: 35.7

MEAN= 34.9 STD. DEV. = COEF. VAR. = 3.31

AS 0029

PEAK HEIGHT (ABSORBANCE) AA 0.545
PEAK AREA (ABS-SECONDS) 0.324

READ: 9.6

PEAK HEIGHT (ABSORBANCE) AA 0.577
PEAK AREA (ABS-SECONDS) 0.341

READ: 9.6

MEAN= 9.6 STD. DEV. = COEF. VAR. = 0.10

AS 0030

PEAK HEIGHT (ABSORBANCE) AA 4.401
PEAK AREA (ABS-SECONDS) 1.110

-27-271

-27-271

06221-11

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
4.463
1.551

EA
2.731
1.110

READ: 13.5

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

MEAN= 1.7 STD.DEV.=

COEF.VAR.= 99.99

AS 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.013
0.575

EA
0.236
0.074

EA
0.034
0.101

READ: 15.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.126
0.645

EA
0.253
0.080

EA
0.073
0.073

READ: 14.3

MEAN= 14.7 STD.DEV.=

COEF.VAR.= 3.74

AS 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.272
0.177

EA
0.050
0.024

EA
0.020
0.103

READ: 3.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.228
0.139

EA
0.061
0.035

EA
0.101
0.101

READ: 5.5

MEAN= 4.5 STD.DEV.=

COEF.VAR.= 33.87

AS 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.631
0.293

EA
0.595
0.250

EA
0.037
0.039

READ: 48.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.656
0.289

EA
0.621
0.252

EA
0.040
0.040

READ: 47.9

MEAN= 48.3 STD.DEV.=

COEF.VAR.= 1.13

AS 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.024
0.032

EA
0.022
0.005

EA
0.001
0.001

READ:

0.000 0.000

READ: 0.9

MEAN= -0.6 STD. DEV. =

COEF. VAP. = 59.017

AS 0035

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.024
0.029
ZAA 0.019
0.305

FEAD: -0.4

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.030
0.036
ZAA 0.014

READ: 1.3

MEAN= 0.4 STD. DEV. =

COEF. VAP. = 99.09

AS 0035

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.812
0.351
ZAA 0.029
0.299

READ: 57.2

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.246
0.311
ZAA 0.718
0.290

READ: 55.2

MEAN= 56.2 STD. DEV. =

COEF. VAP. = 3.20

AS 0037

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.504
0.435
ZAA 0.104
0.009

PEAD: 12.0

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

AA 0.581
0.493
ZAA 0.112
0.074

PEAD: 13.0

MEAN= 12.5 STD. DEV. =

COEF. VAP. = 5.50

AS 0038

PEAK HEIGHT (ABSORBANCE)

AA

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

0.000 0.000

(56.2)(20)(100)

113.4

113.2

20X = 100.4

0.6378 - 7.0 (0.000)

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 56.1
MEAN= 56.1 STD.DEV.=
AS 0039

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 56.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 55.9

MEAN= 55.9 STD.DEV.=
AS 0040

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 49.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 50.1

MEAN= 49.6 STD.DEV.=
AS 0040

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: -0.1

MEAN= 0.1 STD.DEV.=
AS 0041

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.1

AA 0.996
0.617

7c spt
COEF. VAR. = 0.03

AA 0.996
0.631

AA 0.996
0.633

AA 1.069
0.629

7c spt
COEF. VAR. = 0.13

AA 0.705
0.313

AA 0.713
0.300

7c spt
COEF. VAR. = 1.35

AA 0.028
-0.003

AA 0.016
0.005

AA 0.028
-0.003

AA 0.028
-0.003

AA 0.016
0.005

AA 0.016
0.005

AA 0.016
0.005

AA 0.016
0.005

AA 0.016
0.005

AA 0.016
0.005

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

AA 0.437
0.293

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.128
ZAA 0.081
EG 0.057
0.043
0.065

READ: 7.1

MEAN= 6.6 STD.DEV.=

COEF.VAR.= 10.61 %

AS 0046

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.356
ZAA 0.318
EG 0.048
0.290
0.229

READ: 43.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.351
ZAA 0.310
EG 0.047
0.297
0.230

READ: 43.6

MEAN= 43.4 STD.DEV.=

COEF.VAR.= 0.72 %

AS 0047

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.366
ZAA 0.338
EG 0.044
0.292
0.229

READ: 43.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.357
ZAA 0.328
EG 0.043
0.290
0.230
0.060

READ: 43.7

MEAN= 43.6 STD.DEV.=

COEF.VAR.= 0.5 %

AS 0045

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.411
ZAA 0.108
EG 0.154
0.319
0.065

READ: 11.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.405
ZAA 0.097
EG 0.134
0.325
0.065

READ: 11.3

MEAN= 11.3 STD.DEV.=

COEF.VAR.= 0.39 %

AS 0045

AS 0045

PEAK HEIGHT (ABSORBANCE)

AA 0.386
ZAA 0.338
EG 0.044

PEAD: 29.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.384
0.303
ZAA 0.254
0.164
EG 0.162
0.139

READ: 30.7

-3C SX

MEAN= 30.2 STD.DEV.=

COEF.VAR.= 2.24

AS 0050

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.447
0.331
ZAA 0.406
0.029
EG 0.409
0.30

READ: 4.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.446
0.350
ZAA 0.059
0.033
EG 0.112
0.31

READ: 5.0

-4C SX

MEAN= 4.6 STD.DEV.=

COEF.VAR.= 11.79

AS 0051

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.425
0.329
ZAA 0.113
0.063
EG 0.341
0.255

READ: 11.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.401
0.309
ZAA 0.094
0.064
EG 0.334
0.246

READ: 11.1

-5C SX

MEAN= 11.1 STD.DEV.=

COEF.VAR.= 0.88

AS 0052

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.383
0.299
ZAA 0.141
0.085
EG 0.298
0.211

READ: 15.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.407
0.298
ZAA 0.154
0.082
EG 0.299
0.216

READ: 14.7

-7C SX

MEAN= 15.0 STD.DEV.=

COEF.VAR.= 2.30

AS 0053

100-443887-1000

READ: 17.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

FAA	1.0
0.157	0.336
0.097	0.750

WEED: 17.6

```
MEAN= 17.7
STD.DEV.=
```

$$\text{COEF.VAR.} = 1.06$$

PEAK HEIGHT (AES-PEAK)
PEAK AREA (AES-SECONDS)

—AA	—BC
0.165	0.550
0.114	0.153

FEED: 21.0

PEAK HEIGHT (ARSCPEANCE)
PEAK AREA (AES-SECONDS)

ZAA	RC
0.198	0.611
0.137	0.431

READ: 55.5

```
MEAN=
23.3 STD.DEV.=
```

COEF. VAR. = 13.6%

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

EAA	100
0.549	0.109
0.268	0.033

READ: 51.1

PEAK HEIGHT (ASSOREANCE)
PEAK AREA (ABS-SECONDS)

FAA	LC
1,643	0.046
1,200	0.043

LEAD: 50.3

EAN=	50.9	STD.DEV.=
------	------	-----------

 $\text{COEF, VAR.} = 0.46$ EAF HEIGHT (ABSORDANCE)
EAK AREA (ABS-SECONDS)

FAA	F ₃
.018	0.013
.002	0.005

EAD: -0.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

FAA	10
.002	0.002
.018	-0.002

EAD: 2.1

```

EAN=
0.5 STD.DEV.=

```

DEF.VAR. = 55.95

005

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.391
ZAA 0.253
0.314 0.164
EG 0.174
0.151

READ: 30.6

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.444
ZAA 0.252
0.366 0.177
EG 0.207
0.189

READ: 32.2

MEAN= 31.9 STD. DEV. =

COEF. VAR. = 5.72

AS 0058

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.542
ZAA 0.086
0.401 0.048
EG 0.497
0.354

READ: 9.1

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.580
ZAA 0.116
0.382 0.046
EG 0.463
0.337

READ: 7.6

MEAN= 7.8 STD. DEV. =

COEF. VAR. = 4.38

AS 0059

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.559
ZAA 0.066
0.344 0.015
EG 0.508
0.379

READ: 1.6

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.530
ZAA 0.015
0.335 0.023
EG 0.514
0.317

READ: 3.0

MEAN= 2.3 STD. DEV. =

COEF. VAR. = 44.17

AS 0060

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.549
ZAA 0.063
0.357 0.011
EG 0.497
0.379

READ: 6.4

PEAK HEIGHT (ABSCISSANCE)
PEAK AREA (ABS-SECONDS)

AA 0.503
ZAA 0.091
0.359 0.011
EG 0.479
0.308

READ: 6.6

MEAN= 6.5 STD. DEV. =

COEF. VAR. = 2.72

AS 0061

AS 0061

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.044
0.1667
ZAA 0.212
0.085
BG 0.850
0.503

READ: 15.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.072
0.1697
ZAA 0.182
0.083
BG 0.824
0.511

READ: 14.8

-3B SX

MEAN= 15.0 STD. DEV. =

COEF. VAR. = 1.73

AS 0062

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.674
0.299
ZAA 0.635
0.261
BG 0.617
0.301

READ: 49.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.644
0.294
ZAA 0.600
0.250
BG 0.641
0.330

READ: 48.0

MEAN= 49.3 STD. DEV. =

COEF. VAR. = 1.40

AS 0063

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.035
0.040
ZAA 0.025
0.003
BG 0.009
0.011

READ: -2.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.031
0.053
ZAA 0.020
0.011
BG 0.009
0.012

READ: 0.7

MEAN= -0.7 STD. DEV. =

COEF. VAR. = 99.99

ECBY

Open

Method: ENVIRO94 Standard: STD1-Blank

Elem Ag3280 Al3082 As1936 Ba4934 Ca3179 Cd2288
 Ave .0000 .0025 -.0011 .0000 .0330 .0000
 SDev .0000 .0000 .0003 .0000 .0001 .0000
 %RSD 141.4 .5220 27.35 .0000 .2208 .46.78
 #1 .0000 .0025 -.0013 .0000 .0331 .0001
 #2 .0000 .0025 -.0009 .0000 .0330 .0000

Elem Co2286 Cr2677 Cu3247 Fe2599 Hg2790 Hn2576
 Ave .0001 .0001 .0002 -.0000 .0001 .0001
 SDev .0001 .0000 .0000 .0000 .0007 .0000
 %RSD 71.43 27.35 16.67 141.4 22.56 71.43
 #1 .0001 .0002 .0002 .0000 .0025 .0001
 #2 .0002 .0001 .0003 .0001 .0035 .0001

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908
 Ave .0014 -.0000 .0003 .0002 .0016 .0001
 SDev .0000 .0001 .0001 .0000 .0003 .0002
 %RSD 2.926 234.0 19.40 11.84 19.92 265.0
 #1 .0015 .0000 .0003 .0002 .0018 .0003
 #2 .0014 -.0001 .0003 .0002 .0014 .0001

Elem Zn2138
 Ave .0007
 SDev .0000
 %RSD 6.016

#1 .0007
 #2 .0008

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Ave	37890	---	---	---	---	---	---
SDev	366.2813	---	---	---	---	---	---
%RSD	.9666965	---	---	---	---	---	---
#1	38149	---	---	---	---	---	---
#2	37631	---	---	---	---	---	---

Method: ENVIRO94 Standard: STD8

Elem Ag3280
 Ave .0790
 SDev .0002
 %RSD .2459

#1 .0791
 #2 .0789



Avg	1.040	.8952	.1606	.6641	.3704	.3218	.0670
SDev	.001	.0031	.0002	.0007	.0006	.0012	.0003
%RSD	.0594	.3463	.1429	.1092	.1597	.3656	.4079
#1	1.039	.8974	.1608	.6646	.3708	.3226	.0672
#2	1.040	.8930	.1604	.6636	.3700	.3209	.0668
Elem	Mn2576	Pb2203	Zn2138				
Avg	.7776	.0688	.3889				
SDev	.0022	.0006	.0011				
%RSD	.2759	.8126	.2855				
#1	.7791	.0692	.3897				
#2	.7761	.0684	.3882				

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	37501	--	--	--	--	--	--
SDev	57.98276	--	--	--	--	--	--
%RSD	.1546166	--	--	--	--	--	--
#1	37460	--	--	--	--	--	--
#2	37542	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD5

Elem	V_2924
Avg	.2899
SDev	.0003
%RSD	.1073
#1	.2902
#2	.2897

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	38110	--	--	--	--	--	--
SDev	9.192388	--	--	--	--	--	--
%RSD	.0241204	--	--	--	--	--	--
#1	38104	--	--	--	--	--	--
#2	38117	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: IGV Operator: DQ

Run Time: 06/14/94 11:25:27

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.805	9.718	9.865	10.02	10.08	9.758	9.647



SDev	.001	.037	.014	.00	.01	.011	.077
%RSD	.0449	.3800	.1399	.0333	.0779	.1123	.8004
#1	1.804	9.744	9.855	10.02	10.08	9.751	9.697
#2	1.805	9.692	9.875	10.02	10.09	9.766	9.588
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.566	9.643	10.15	9.622	47.96	9.765	9.706
SDev	.003	.004	.03	.007	.88	.035	.008
%RSD	.0334	.0458	.2598	.0722	1.827	.3576	.0778
#1	9.569	9.640	10.13	9.627	48.58	9.790	9.701
#2	9.564	9.646	10.17	9.617	47.34	9.740	9.711
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.682	9.586	9.562	9.490	10.01	9.566	9.668
SDev	.030	.019	.022	.026	.03	.159	.003
%RSD	.3076	.1946	.2335	.2731	.2878	1.659	.0337
#1	9.703	9.599	9.546	9.471	9.987	9.679	9.670
#2	9.661	9.573	9.577	9.508	10.03	9.454	9.666
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Zn2138						
Units	ppm						
Avg	10.62						
SDev	.02						
%RSD	.1460						
#1	10.61						
#2	10.63						
Errors	QC Pass						
Value	10.00						
Range	10.00						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	36851	--	--	--	--	--	--
SDev	234.7594	--	--	--	--	--	--
%RSD	.6370505	--	--	--	--	--	--



Errors LC Pass
High .0100
Low -.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	38498	--	--	--	--	--	--
SDev	101.8234	--	--	--	--	--	--
%RSD	.2644900	--	--	--	--	--	--
#1	38570	--	--	--	--	--	--
#2	38426	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSAI
Run Time: 06/14/94 11:33:20 Operator: DQ
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	507.6	3.543	.0218	.0009	471.5	-.0083
SDev	.0019	.1	.039	.0008	.0000	.3	.0048
%RSD	40.72	.0220	1.097	3.640	.5341	.0673	57.53
#1	-.0034	507.5	3.571	.0213	.0009	471.7	-.0049
#2	-.0062	507.7	3.516	.0224	.0009	471.3	-.0117
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		500.0				500.0	
Range		20.00				20.00	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Hu2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0086	.0117	-.0038	179.1	-.4085	512.0	-.0382
SDev	.0006	.0007	.0020	.1	.2200	.5	.0011
%RSD	7.056	5.755	53.91	.0642	53.86	.0885	2.830
#1	.0082	.0113	-.0052	179.2	-.5641	511.7	-.0374
#2	.0090	.0122	-.0023	179.0	-.2529	512.3	-.0390
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value				200.0		500.0	
Range				20.00		20.00	

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Ti1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3095	.0056	.0029	-.0356	.2202	.2317	-.0039
SDev	.0012	.0146	.0014	.0348	.0240	.0369	.0053
%RSD	.3850	260.1	47.21	97.82	10.91	15.92	137.5
#1	.3103	-.0047	.0019	-.0602	.2372	.2577	-.0076
#2	.3086	.0159	.0038	-.0110	.2032	.2056	.0001



Errors NOCHECK NOCHECK NOCHECK NOCHECK NOCHECK NOCHECK NOCHECK
Value
Range

Elem Zn2138
Units ppm
Avge -.0264
SDev .0019
%RSD 7.358

#1 -.0251
#2 -.0278

Errors NOCHECK
Value
Range

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36986	--	--	--	--	--	--
SDev	101.1163	--	--	--	--	--	--
%RSD	.2733944	--	--	--	--	--	--

#1 37057
#2 36914

Method: ENVIR094 Sample Name: ICSABI

Run Time: 06/14/94 11:37:13

Comment:

Mode: CONC Corr. Factor: 1

Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cd2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9383	504.1	3.575	.5257	.4737	471.8	.9320
SDev	.0029	.2	.026	.0037	.0009	.1	.0139
%RSD	.3098	.0311	.7202	.7093	.2005	.0181	1.492

#1

#2

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	500.0	500.0	500.0	500.0	500.0	1.000
Range	20.00	20.00	20.00	20.00	20.00	20.00	20.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4495	.4730	.4826	177.9	-.3334	509.0	.4193
SDev	.0050	.0033	.0010	.1	.1447	.2	.0001
%RSD	1.110	.7030	.2036	.0742	43.41	.0310	.0289

#1

#2

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.4531	.4706	.4833	177.9	-.4358	508.9	.4192
Range	.4460	.4753	.4819	178.0	-.2311	509.2	.4193



Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0090
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Hn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	-.0007	.0026	.0029	-.0979	.0248	.0011
SDev	.0006	.0050	.0011	.0020	.3066	.0115	.0005
%RSD	26.90	729.0	40.93	67.76	313.3	46.52	44.11
#1	.0017	.0028	.0033	.0015	.1189	.0329	.0015
#2	.0025	-.0042	.0018	.0043	-.3147	.0166	.0004
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0806	.0028	.0105	-.0438	.0287	-.0430	.0000
SDev	.0100	.0000	.0170	.0116	.0361	.0038	.0013
%RSD	12.43	.0000	161.8	26.59	125.8	8.807	6167
#1	.0735	.0028	.0225	-.0520	.0032	-.0457	.0010
#2	.0877	.0028	-.0015	-.0355	.0542	-.0404	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100
Elem	Zn2138						
Units	ppm						
Avg	.0025						
SDev	.0020						
%RSD	79.95						
#1	.0040						
#2	.0011						
Errors	LC Pass						
High	.0100						
Low	-.0100						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	36786	--	--	--	--	--	--
SDev	40.30509	--	--	--	--	--	--
%RSD	.1095649	--	--	--	--	--	--
#1	36758	--	--	--	--	--	--
#2	36815	--	--	--	--	--	--

Method: ENVI094 Sample Name: LCSW 1 Operator: BQ
Run Time: 06/14/94 11:53:11



Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.914	2.049	1.950	2.096	2.042	1.930	1.942
SDev	.002	.036	.008	.000	.001	.001	.008
%RSD	.1052	1.773	.3911	.0208	.0302	.0595	.4040
#1	1.913	2.075	1.945	2.097	2.042	1.931	1.946
#2	1.916	2.023	1.955	2.096	2.043	1.929	1.947
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Low	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.980	1.958	2.033	1.984	19.59	1.920	1.994
SDev	.000	.004	.001	.000	.24	.014	.005
%RSD	.0098	.2256	.0479	.0024	1.209	.7416	.2309
#1	1.980	1.961	2.033	1.984	19.42	1.931	1.994
#2	1.980	1.955	2.032	1.984	19.76	1.910	2.001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	24.00	2.400	2.400
Low	1.600	1.600	1.600	1.600	16.00	1.600	1.600
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.114	2.002	1.945	2.025	2.084	1.930	1.987
SDev	.001	.005	.025	.021	.033	.048	.006
%RSD	.0481	.2441	1.283	1.025	1.585	2.485	.2901
#1	2.113	2.006	1.962	2.010	2.108	1.896	1.983
#2	2.115	1.999	1.927	2.040	2.061	1.964	1.994
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Low	1.600	1.600	1.600	1.600	1.600	1.600	1.600
Elem	Zn2138						
Units	ppm						
Avg	1.949						
SDev	.004						
%RSD	.2102						
#1	1.946						
#2	1.952						
Errors	LC Pass						
High	2.400						
Low	1.600						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED



Elem	Y	--	--	--	--
Waven	371.030	--	--	--	--
Avge	36670	--	--	--	--
SDev	57.27565	--	--	--	--
XRSD	.1561900	--	--	--	--
#1	36711	--	--	--	--
#2	36630	--	--	--	--

Method: ENVIR094 Sample Name: PB EX1 6/7 Operator: DQ
 Run Time: 06/14/94 11:57:06
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Units	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca12154
Avge	ppm	.0022	.0654	-.0220	.0008	.0015	H.1016	ppm
SDev	ppm	.0019	.0449	.0471	.0003	.0008	.0138	.0004
XRSD	ppm	88.52	68.60	214.5	43.50	50.86	13.61	633.4
#1		.0035	.0337	.0113	.0011	.0010	H.0919	.0020
#2		.0008	H.0971	-.0553	.0006	.0021	H.1114	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0030	.0030
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0030	-.0030
Elem	Units	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Avge	ppm	.0015	-.0004	.0050	H1.556	.0198	.0283	ppm
SDev	ppm	.0004	.0010	.0040	.013	.1301	.0200	H.0024
XRSD	ppm	27.27	251.3	80.47	.8279	656.9	70.82	.0013
#1		.0018	-.0011	.0021	H1.565	.1118	.0141	.0016
#2		.0012	.0003	.0078	H1.547	-.0722	.0424	H.0011
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass	LC High
High	.0100	.0200	.0100	.0300	2.000	.1000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.1000	-.0020
Elem	Units	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Avge	ppm	H1400.	.0057	.0113	.0135	.0474	-.0302	ppm
SDev	ppm	16.	.0013	.0040	.0332	.0140	.0172	.0019
XRSD	ppm	1.175	22.38	35.67	246.3	29.56	56.97	69.77
#1		H1411.	.0066	.0084	-.0100	.0375	-.0180	.0020
#2		H1388.	.0048	.0141	.0370	.0573	-.0423	.0010
Errors	LC High	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.1000	-.2000	-.2000	-.0100
Elem	Units	Zn2138						
Avge	ppm	.0029						



#1	.0003
#2	.0056

Errors	I.C Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	/
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	ROUTED
Elem	Y	--	--	--	--	--	--
*Avlen	371.030	--	--	--	--	--	--
*Avge	35058	--	--	--	--	--	--
*SDev	1421.992	--	--	--	--	--	--
*RRSD	4.056170	--	--	--	--	--	--
#1	36063	--	--	--	--	--	--
#2	34052	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6391-01C EX1 QC ONLI
Run Time: 06/14/94 12:01:06 Operator: DQ
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cr2798
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0048	.2978	-.0021	1.910	.0032	24.85	-.0040
Sdev	.0034	.0151	.0367	.011	.0001	.35	.0027
%RSD	70.32	5.074	1723.	.5622	1.684	1.411	88.973
#1	.0024	.3085	.0238	1.917	.0032	24.60	-.0011
#2	.0072	.2871	-.0280	1.902	.0033	25.10	-.0059

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2776
------	--------	--------	--------	--------	--------	--------	--------

average	-.0019	-.0014	-.0016	1.588	3.014	5.070	1.467
Sdev	.0012	.0010	.0014	.008	.276	.041	.013
SE	.0007	.0007	.0007	.005	.173	.026	.008
95%CI	14.68	70.88	9.522	.4962	9.143	.8155	.8679
#1	.0088	-.0021	.0153	1.593	2.819	5.041	1.458
#2	.0071	-.0007	.0175	1.582	3.208	5.100	1.476

Elem	Na5889	N12316	Pb2203	Sb2068	Se1960	Tl1908	V ₂₉₉₇₄
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	1365.	.0039	-.0081	-.0052	.0062	-.0395	.0000
SD	4.	.0076	.0011	.0270	.0021	.0683	.0015
RSD	.2992	194.2	13.45	519.9	33.99	172.8	.0091
#1	1368.	-.0015	-.0088	-.0243	.0077	.0088	-.0010
#2	1362.	.0092	-.0073	.0139	.0047	-.0878	.0011

Elem	Zn
Units	2138
Avg	ppm .4626



SDev .0077
%RSD 1.675

#1 .4571
#2 .4681

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32485	--	--	--	--	--	--
SDev	429.9209	--	--	--	--	--	--
%RSD	1.323444	--	--	--	--	--	--
#1	32789	--	--	--	--	--	--
#2	32181	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6391-OIC SPK1 Operator: DQ
Run Time: 06/14/94 12:04:59
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2224
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9110	2.376	1.930	3.990	1.018	26.42	.9310
SDev	.0238	.054	.057	.051	.000	.94	.0359
%RSD	2.618	2.283	2.938	1.276	.0022	3.562	3.859
#1	.8941	2.338	1.890	4.026	1.018	25.75	.9056
#2	.9278	2.414	1.971	3.954	1.018	27.08	.9564

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9491	.9480	1.022	2.526	15.55	6.174	2.445
SDev	.0320	.0329	.005	.001	1.00	.144	.063
%RSD	3.370	3.471	.4639	.0498	6.439	2.328	1.765
#1	.9265	.9247	1.025	2.527	14.84	6.072	2.417
#2	.9717	.9712	1.018	2.525	16.26	6.275	2.478

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1351.	.9335	.9536	.9806	2.145	1.911	.9770
SDev	8.	.0356	.0833	.0099	.086	.014	.0147
%RSD	.6285	3.810	8.739	1.010	3.993	.7254	1.500
#1	1357.	.9083	.8947	.9876	2.084	1.901	.9666
#2	1345.	.9586	1.013	.9736	2.205	1.920	.9874

Elem	Zn2138
Units	ppm
Avg	1.415
SDev	.056
%RSD	3.986
#1	1.375



#2 1.455

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Avg	32252						
SDev	2179.303						
%RSD	6.757110						
#1	33793						
#2	30711						

Method: ENVIRO94 Sample Name: 6391-01C DSPK1 Operator: 100
 Run Time: 06/14/94 12:08:52
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca322384
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9156	2.426	2.038	3.980	1.030	26.61	.9470
SDev	.0062	.039	.023	.010	.001	.08	.0055
%RSD	.6735	1.616	1.148	.2577	.0882	.2900	.5789
#1	.9200	2.454	2.022	3.988	1.030	26.66	.9431
#2	.9113	2.399	2.055	3.973	1.029	26.55	.9509

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2700	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9606	.9584	1.018	2.539	13.75	6.067	2.464
SDev	.0075	.0026	.003	.006	.47	.017	.001
%RSD	.7753	.2669	.2863	.2205	3.392	.2874	.0399
#1	.9659	.9602	1.020	2.543	14.08	6.079	2.465
#2	.9554	.9566	1.016	2.535	13.42	6.054	2.461

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1342.	.9719	.9457	.9860	2.157	1.928	.9903
SDev	2.	.0003	.0369	.0407	.072	.051	.0002
%RSD	.1632	.0300	3.899	4.132	3.326	2.663	.0221
#1	1344.	.9717	.9197	1.015	2.106	1.965	.9905
#2	1340.	.9721	.9718	.9572	2.208	1.892	.9902

Elem	Zn2138
Units	ppm
Avg	1.425
SDev	.011
%RSD	.7914
#1	1.433
#2	1.417

IntStd	1	2	3	4	5	6	7
Mode							
Elem							
Wavlen							
Avg							
SDev							
%RSD							
#1							
#2							



Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	NOTUSED
Wavlen	371.030	--	--	--	--	--	--
Ave	32254	--	--	--	--	--	--
SDev	647.0027	--	--	--	--	--	--
%RSD	2.005930	--	--	--	--	--	--
#1	31797	--	--	--	--	--	--
#2	32712	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6245-01C EX1 6/7 S1 Operator: DQ
Run Time: 06/14/94 12:12:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cd2254
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0002	.4268	-.0281	1.527	.0027	33.42	-.0010
SDev	.0055	.0521	.0132	.013	.0009	.97	.0056
%RSD	2242.	12.20	47.09	.8257	33.90	2.898	559.4
#1	-.0036	.3900	-.0187	1.536	.0020	32.74	-.0049
#2	.0041	.4636	-.0374	1.518	.0033	34.11	.0029

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Hu2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0189	.0026	.0717	1.646	11.58	4.711	1.201
SDev	.0051	.0011	.0011	.004	.90	.054	.015
%RSD	26.93	42.36	1.587	.2319	7.762	1.142	1.254
#1	.0153	.0018	.0709	1.648	10.94	4.673	1.190
#2	.0225	.0034	.0725	1.643	12.21	4.749	1.211

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	1312.	.0273	.0361	-.0186	.0253	-.0385	.0115
SDev	7.	.0147	.0444	.0473	.0165	.0058	.0007
%RSD	.5281	53.82	123.0	254.6	65.38	15.03	5.065
#1	1317.	.0169	.0047	-.0520	.0136	-.0426	.0110
#2	1307.	.0377	.0674	.0149	.0370	-.0344	.0120

Elem	Zn2138
Units	ppm
Ave	1.396
SDev	.035
%RSD	2.529

#1	1.371
#2	1.421

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--



Avg	32992	--	--	--	--
SDev	1803.122	--	--	--	--
%RSD	5.465332	--	--	--	--
#1	34267	--	--	--	--
#2	31717	--	--	--	--

Method: ENVIRO94 Sample Name: PB 6/13 P3050P1 Operator: DQ
 Run Time: 06/14/94 12:16:40
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2299
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0030	.0818	.0001	-.0009	.0027	-.0162	-.0012
SDev	.0011	.0058	.0284	.0013	.0006	.0051	.0053
%RSD	37.94	7.117	48200.	141.4	24.30	31.35	460.7
#1	-.0022	.0777	-.0200	.0000	.0032	-.0126	.0026
#2	-.0038	.0859	.0201	-.0018	.0022	-.0198	-.0049
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0090
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0090
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0018	-.0014	.0021	.0133	-.8340	-.0118	.0000
SDev	.0019	.0040	.0003	.0013	.1675	.0582	.0006
%RSD	105.8	290.3	14.02	9.397	20.09	491.7	1262.
#1	-.0005	.0015	.0019	.0124	-.7156	.0293	-.0004
#2	-.0032	-.0042	.0023	.0142	-.9525	-.0530	.0005
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0865	-.0024	.0095	-.0102	.0233	-.0652	.0012
SDev	.0004	.0104	.0108	.0074	.0523	.0489	.0040
%RSD	.4691	427.9	113.0	72.53	223.9	74.98	247.3
#1	.0868	-.0098	.0171	-.0154	.0603	-.0998	-.0009
#2	.0863	.0049	.0019	-.0049	-.0136	-.0306	.0014
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100
Elem	Zn2138						
Units	ppm						
Avg	.0053						
SDev	.0003						
%RSD	5.302						



#1 .0055
#2 .0051

Errors LC Pass
High .0100
Low -.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32642	--	--	--	--	--	--
SDev	631.4464	--	--	--	--	--	--
%RSD	1.934489	--	--	--	--	--	--
#1	33088	--	--	--	--	--	--
#2	32195	--	--	--	--	--	--

Method: ENVIR094 Sample Name: PB-2 1 Operator: BQ
Run Time: 06/14/94 12:20:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	H.1302	.0039	.0015	.0023	-.0250	-.0009
SDev	.0023	.0127	.0352	.0004	.0000	.0024	.0000
%RSD	89.01	9.731	901.3	27.97	.4518	9.675	1.380
#1	.0042	H.1392	.0288	.0018	.0023	-.0267	.0010
#2	.0009	H.1212	-.0210	.0012	.0023	-.0233	.0009
Errors	LC Pass	LC High	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0040
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0040
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2756
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	-.0002	.0027	.0187	-.2586	-.0015	.0006
SDev	.0020	.0002	.0025	.0010	.3931	.0203	.0000
%RSD	96.56	138.2	92.72	5.590	152.0	1336.	1.989
#1	.0035	-.0004	.0009	.0194	.0194	-.0159	.0006
#2	.0007	-.0000	.0044	.0180	-.5365	.0128	.0006
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1004	.0050	.0510	-.0037	.0245	-.0476	.0024
SDev	.0081	.0156	.0127	.0135	.0183	.0397	.0015
%RSD	8.091	315.2	24.94	368.9	74.67	83.40	64.90



#1 .1062 .0160 .0600 .0059 .0116 -.0195 .0035
 #2 .0947 -.0061 .0420 -.0132 .0374 -.0756 .0013

Errors LC Pass LC Pass LC Pass LC Pass LC Pass
 High .2000 .0600 .1000 .1000 .2000 .2000 .0100
 Low -.2000 -.0600 -.1000 -.1000 -.2000 -.2000 -.0100

Elem Zn2138
 Units ppm
 Ave .0071
 SDev .0010
 %RSD 14.18

#1 .0079
 #2 .0064

Errors LC Pass
 High .0100
 Low -.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avgc	31324	--	--	--	--	--	--
SDev	102.5305	--	--	--	--	--	--
%RSD	.3273277	--	--	--	--	--	--
#1	31396	--	--	--	--	--	--
#2	31251	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSS#220 Operator: DQ
 Run Time: 06/14/94 12:24:35
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Bc3130	Ca3179	Cd2248
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.4484	26.34	1.224	1.440	.8768	21.43	1.131
SDev	.0006	.03	.001	.001	.0003	.01	.004
%RSD	.1349	.1021	.0449	.0490	.0285	.0247	.3684
#1	.4488	26.32	1.224	1.441	.8766	21.43	1.128
#2	.4479	26.36	1.224	1.440	.8769	21.42	1.134
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.7940	61.90	1.660	2.050	1.380	34.00	1.830
Low	.2160	23.40	.5470	1.110	.6330	17.50	.6530
Elem	Co2286	Cr2677	Cu3247	Fe2599	K7664	Mg2790	Mn2776
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.5200	1.688	1.329	65.35	17.77	18.61	2.381
SDev	.0013	.001	.000	.03	.85	.08	.005
%RSD	.2403	.0645	.0073	.0457	4.776	.4416	.1991
#1	.5191	1.689	1.329	65.37	18.37	18.55	2.374



#2 .5209 1.687 1.329 65.33 17.17 18.67 2.304

Errors LC Pass LC Pass LC Pass LC Pass LC Pass
 High .8310 2.610 2.030 146.0 30.70 31.40 LC Pass
 Low .3770 1.100 .8770 62.40 14.60 14.00 2.000

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V2224
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave 7.078 .9528 1.946 .4860 1.024 1.257 1.770
 SDev .006 .0165 .005 .0222 .054 .023 .006
 %RSD .0818 1.734 .2809 4.562 5.265 1.857 34.59

#1 7.073 .9645 1.950 .4703 .9858 1.240 1.774
 #2 7.082 .9411 1.942 .5017 1.062 1.273 1.716

Errors LC Pass LC Pass LC Pass LC Pass LC Pass
 High 9.580 1.510 2.910 1.960 1.780 2.050 2.740
 Low 3.610 .6240 1.120 .2350 .6230 .6700 1.440

Elem Zn2138
 Units ppm
 Ave 2.330
 SDev .006
 %RSD .2760

#1 2.325
 #2 2.334

Errors LC Pass
 High 3.940
 Low 1.480

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	31808	--	--	--	--	--	--
SDev	116.6726	--	--	--	--	--	--
%RSD	.3668085	--	--	--	--	--	--
#1	31890	--	--	--	--	--	--
#2	31725	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSS-2 #220 Operator: DQ
 Run Time: 06/14/94 12:28:31
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2268
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave .5430 39.58 1.568 1.652 1.052 25.66 1.341
 SDev .0053 .06 .027 .002 .001 .05 .014
 %RSD .9841 .1473 1.708 .1053 .1088 .1811 1.278

#1 .5467 39.62 1.587 1.653 1.053 25.69 1.369
 #2 .5392 39.54 1.549 1.651 1.051 25.63 1.394



Method: ENVIRO94 Sample Name: 6354-03B1 Operator: DQ
 Run Time: 06/14/94 12:32:27
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cd2289
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	85.82	85.82	.6444	1.053	.0113	154.7	.0010
SDev	.0001	.15	.0018	.004	.0007	.1	.0001
%RSD	.6140	.1706	.2765	.3778	5.911	.0915	1.757
#1	-.0088	85.72	.6431	1.056	.0109	154.6	.0030
#2	-.0087	85.93	.6457	1.050	.0118	154.8	.0030
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0715	.1172	.1049	92.15	10.51	10.26	3.709
SDev	.0032	.0062	.0019	.06	.13	.00	.002
%RSD	4.483	5.254	1.857	.0682	1.237	.0375	.0670
#1	.0738	.1215	.1062	92.10	10.42	10.26	3.707
#2	.0692	.1128	.1035	92.19	10.60	10.26	3.710
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2224
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.424	.1568	.2597	.0056	.0608	-.0252	.3646
SDev	.022	.0239	.0299	.0677	.0014	.0402	.0037
%RSD	.8994	15.23	11.51	1218.	2.254	159.5	1.020
#1	2.408	.1399	.2386	-.0423	.0617	-.0536	.3620
#2	2.439	.1736	.2808	.0534	.0598	.0032	.3672
Elem	Zn2138						
Units	ppm						
Avg	.3210						
SDev	.0025						
%RSD	.7697						
#1	.3228						
#2	.3193						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Waven	371.030	--	--	--	--	--	--
Avg	31457	--	--	--	--	--	--
SDev	209.3036	--	--	--	--	--	--
%RSD	.6653642	--	--	--	--	--	--
#1	31309	--	--	--	--	--	--
#2	31605	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6354-03B SPK1 Operator: DQ
 Run Time: 06/14/94 12:36:22
 Comment:



Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2288
Units ppm ppm ppm ppm ppm ppm ppm
Ave .8638 222.3 3.443 2.966 .9103 155.7 .9173
SDev .0019 .2 .124 .002 .0004 .4 .0064
%RSD .2242 .0743 3.589 .0755 .0444 .2322 .6977

#1 .8652 222.4 3.356 2.968 .9105 155.5 .9177
#2 .8624 222.2 3.530 2.964 .9100 156.0 .9219

Elem Co2286 Cr2677 Cu3247 Fe2599 K_7664 Mg2790 Mn276
Units ppm ppm ppm ppm ppm ppm ppm
Ave .9860 1.150 1.012 157.2 28.37 25.93 4.966
SDev .0015 .002 .001 .2 .08 .06 .001
%RSD .1490 .1987 .0986 .1490 .2759 .2374 .0130

#1 .9849 1.148 1.011 157.0 28.43 25.89 4.967
#2 .9870 1.151 1.012 157.3 28.32 25.98 4.966

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Ti1908 V_2024
Units ppm ppm ppm ppm ppm ppm ppm
Ave 3.574 1.088 1.138 .5277 1.877 1.949 1.335
SDev .005 .010 .056 .0108 .012 .070 .001
%RSD .1431 .8741 4.895 2.046 .6145 3.610 .0814

#1 3.571 1.095 1.099 .5201 1.885 1.899 1.305
#2 3.578 1.081 1.178 .5354 1.869 1.999 1.334

Elem Zn2138
Units ppm
Ave 1.401
SDev .006
%RSD .4322

#1 1.405
#2 1.397

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Ave	31609	---	---	---	---	---	---
SDev	219.2031	---	---	---	---	---	---
%RSD	.6934832	---	---	---	---	---	---
#1	31764	---	---	---	---	---	---
#2	31454	---	---	---	---	---	---

Method: ENVIRO94 Sample Name: 6354-03B DSPKI Operator: BQ
Run Time: 06/14/94 12:40:16
Comment:
Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2288
Units ppm ppm ppm ppm ppm ppm ppm



Ave .8646 220.2 3.443 2.952 .9067 196.3 .9173
 SDev .0013 .4 .063 .004 .0013 1.1 .0043
 %RSD .1515 .1906 .1216 .1472 .5689 .4675

#1 .8655 219.9 3.398 2.950 .9058 197.1 .9203
 #2 .8637 220.5 3.487 2.955 .9076 195.6 .9141

Elem Co2286 Cr2677 Cu3247 Fe2599 K_7664 Hg2790 Mn2576
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave .9774 1.154 1.006 151.4 28.59 25.62 4.813
 SDev .0052 .004 .002 .5 .52 .03 .014
 %RSD .5326 .3512 .1617 .3450 1.809 .1046 .3621

#1 .9810 1.157 1.005 151.7 28.22 25.63 4.850
 #2 .9737 1.151 1.008 151.0 28.95 25.60 4.876

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V_2924
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave 3.826 1.083 1.102 .4985 1.914 1.945 1.361
 SDev .025 .000 .005 .0502 .118 .064 .000
 %RSD .6586 .0175 .4287 10.07 6.175 3.266 .0356

#1 3.844 1.083 1.098 .5340 1.831 1.990 1.361
 #2 3.808 1.083 1.105 .4630 1.998 1.900 1.361

Elem Zn2138
 Units ppm
 Ave 1.403
 SDev .005
 %RSD .3281

#1 1.406
 #2 1.400

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Waven	371.030	--	--	--	--	--	--
Ave	32486	--	--	--	--	--	--
SDev	628.6179	--	--	--	--	--	--
%RSD	1.935013	--	--	--	--	--	--
#1	32042	--	--	--	--	--	--
#2	32931	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6221-01D1 Operator: DQ
 Run Time: 06/14/94 12:44:10
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2288
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave -.0029 17.21 .0517 .6302 .0036 62.91 .0100
 SDev .0032 .05 .0038 .0004 .0007 .36 .0001
 %RSD 109.0 .2734 7.363 18.27 .5663 1.543



#1	-0.0052	17.17	.0544	.6299	.0041	62.66	.0099
#2	-0.0007	17.24	.0490	.6305	.0031	63.16	.0101
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0203	.0701	.1105	25.29	1.768	3.427	65.16
SDev	.0041	.0024	.0013	.07	.263	.014	.0009
%RSD	20.07	3.498	1.145	.2651	14.88	.4211	1.235
#1	.0174	.0683	.1096	25.24	1.582	3.437	.6522
#2	.0232	.0718	.1114	25.33	1.954	3.417	.6510
Elem	Ni5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.730	.0339	.5135	-.0294	.0764	-.0052	.0715
SDev	.008	.0091	.0126	.0190	.0384	.0050	.0008
%RSD	.2783	26.89	2.445	64.67	50.24	96.54	1.071
#1	2.724	.0275	.5046	-.0160	.1036	-.0087	.0710
#2	2.735	.0404	.5223	-.0428	.0493	-.0016	.0720
Elem	Zn2138						
Units	ppm						
Avg	2.352						
SDev	.022						
%RSD	.9165						
#1	2.337						
#2	2.368						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	33378	--	--	--	--	--	--
SDev	346.4823	--	--	--	--	--	--
%RSD	1.038056	--	--	--	--	--	--
#1	33623	--	--	--	--	--	--
#2	33133	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6221-02D1 Operator: DQ
 Run Time: 06/14/94 12:48:04
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca2748
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0088	106.3	.7271	.8834	.0079	174.3	.0078
SDev	.0010	.1	.0604	.0005	.0000	.5	.0026
%RSD	11.88	.1191	8.305	.0551	.0115	.2586	32.96
#1	-.0080	106.2	.7698	.8831	.0079	174.6	.0096
#2	-.0095	106.3	.6844	.8838	.0079	174.0	.0060
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576



Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0231	.2638	.0928	54.28	8.797	8.572	1.018
SDev	.0062	.0011	.0011	.02	.570	.026	.000
%RSD	26.81	.4378	1.191	.0456	6.479	.2993	.0103
#1	.0275	.2646	.0935	54.30	9.200	8.554	1.018
#2	.0187	.2629	.0920	54.26	8.394	8.590	1.018
Elem	Na5889	M12316	Pb2203	Sb2068	Se1960	Tl1908	V. 2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	5.776	.1349	.3770	-.0299	.0949	.0406	.0222
SDev	.006	.0129	.0180	.0062	.0450	.0158	.0014
%RSD	.1064	9.526	4.774	20.84	47.42	38.96	1.955
#1	5.771	.1258	.3643	-.0255	.1268	.0518	.0732
#2	5.780	.1440	.3897	-.0343	.0631	.0294	.0712
Elem	Zn2138						
Units	ppm						
Ave	1.842						
SDev	.004						
%RSD	.2196						
#1	1.845						
#2	1.839						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	34328	--	--	--	--	--	--
SDev	3.535534	--	--	--	--	--	--
%RSD	.0102991	--	--	--	--	--	--
#1	34331	--	--	--	--	--	--
#2	34326	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6221-03D1 Operator: bq
 Run Time: 06/14/94 12:51:57
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Units	ppm	ppm	ppm	ppm	ppm	ppm
Ag3280	ppm	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca2298
Ave	-.0097	36.67	.2737	1.392	.0031	116.3	.0576
SDev	.0043	.08	.0609	.001	.0000	.2	.0051
%RSD	44.01	.2162	22.26	.0479	.2475	.1630	8.871
#1	-.0067	36.73	.3168	1.392	.0031	116.4	.0612
#2	-.0127	36.61	.2306	1.393	.0031	116.1	.0540
Elem	Co2286	Cr2677	Cu3247	Fe2599	K. 7664	Hg2790	Hu2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0582	.5921	.2659	66.21	4.546	4.819	1.377
SDev	.0011	.0025	.0006	.10	.707	.053	.003
%RSD	1.959	.4248	.2293	.1440	15.55	1.091	.1976



#1	.0590	.5939	.2663	66.28	5.046	4.856	1.379
#2	.0574	.5903	.2655	66.15	4.046	4.782	1.376
Elem	Na5889	N12316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	4.475	.3290	6.477	.0285	.0806	.0327	.0591
SDev	.016	.0165	.103	.0125	.0632	.0378	.0001
%RSD	.3633	5.026	1.593	43.81	78.42	115.5	.2250
#1	4.486	.3173	6.550	.0374	.1252	.0060	.0590
#2	4.463	.3407	6.404	.0197	.0359	.0595	.0592
Elem	Zn2138						
Units	ppm						
Ave	7.579						
SDev	.009						
%RSD	.1189						
#1	7.586						
#2	7.573						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	33848	--	--	--	--	--	--
SDev	65.05383	--	--	--	--	--	--
%RSD	.1921940	--	--	--	--	--	--
#1	33894	--	--	--	--	--	--
#2	33802	--	--	--	--	--	--

Method: ENVI094 Sample Name: 6221-04D1 Operator: DQ
Run Time: 06/14/94 12:55:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0014	5.438	.0549	.3642	.0017	11.13	.0102
SDev	.0011	.012	.0335	.0010	.0007	.02	.0001
%RSD	75.26	.2248	60.93	.2803	44.25	.1704	.9196
#1	.0022	5.429	.0786	.3635	.0011	11.12	.0101
#2	.0007	5.446	.0312	.3649	.0022	11.14	.0103
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0124	.3491	.0610	66.07	.2704	.7183	.5691
SDev	.0027	.0021	.0004	.08	.8949	.0566	.0024
%RSD	21.70	.6090	.7105	.1206	331.0	7.873	.4294
#1	.0105	.3476	.0607	66.01	.3624	.6783	.5674
#2	.0143	.3506	.0613	66.12	.9032	.7583	.5709



Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V_2924
 Units ppm ppm ppm ppm ppm ppm
 Ave 3.052 .1584 2.217 .0078 .0070 .0206
 SDev .006 .0039 .008 .0069 .0211 .0357
 %RSD .1898 2.487 .3633 87.98 300.5 173.2 5.511
 #1 3.056 .1556 2.211 .0030 .0219 .0458 .0203
 #2 3.048 .1611 2.223 .0127 -.0079 -.0046 .0317

Elem Zn2138
 Units ppm
 Ave 1.490
 SDev .002
 %RSD .1200

#1 1.489
 #2 1.492

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Ave	32932						
SDev	204.3539						
%RSD	.6205234						

#1 33077
 #2 32788

Method: ENVIR094 Sample Name: 6220-01D1 Operator: BQ
 Run Time: 06/14/94 12:59:43
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Re3130 Ca3179 Cd2198
 Units ppm ppm ppm ppm ppm ppm
 Ave -.0069 14.36 .0785 1.501 .0037 408.5 .0103
 SDev .0022 .04 .0106 .002 .0007 .7 .0001
 %RSD 31.61 .2803 13.48 .1509 19.84 .1657 .4721
 #1 -.0084 14.33 .0859 1.502 .0032 409.0 .0107
 #2 -.0053 14.39 .0710 1.499 .0042 408.0 .0103

Elem Co2286 Cr2677 Cu3247 Fe2599 K_7664 Hg2190 In2176
 Units ppm ppm ppm ppm ppm ppm
 Ave .0115 .0387 .0711 20.01 .9378 11.80 .6070
 SDev .0001 .0046 .0049 .02 1.056 .07 .0008
 %RSD .4078 11.93 6.927 .0989 112.6 .5981 .1407
 #1 .0115 .0354 .0676 20.02 .1909 11.75 .6076
 #2 .0115 .0419 .0746 19.99 1.685 11.85 .6015

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V_2924
 Units ppm ppm ppm ppm ppm ppm
 Ave 17.07 .0292 .3490 -.0058 .1191 -.0503 .0491
 SDev .02 .0104 .0203 .0260 .0420 .0380 .0013



%RSD	.1012	35.57	5.819	446.4	35.24	75.52	2.694
#1	17.08	.0365	.3346	.0126	.0894	-.0771	.0500
#2	17.05	.0218	.3634	-.0242	.1488	-.0234	.0481
Elem	Zn2138						
Units	ppm						
Avg	1.245						
SDev	.001						
%RSD	.1161						
#1	1.246						
#2	1.244						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32774	--	--	--	--	--	--
SDev	104.6518	--	--	--	--	--	--
%RSD	.3193135	--	--	--	--	--	--
#1	32848	--	--	--	--	--	--
#2	32700	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-02D1 Operator: HQ
Run Time: 06/14/94 13:03:36
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cl2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0038	8.364	.0771	.6210	.0043	14.37	.0047
SDev	.0000	.025	.0089	.0003	.0000	.02	.0027
%RSD	.0378	.2995	11.56	.0460	.0554	.1085	57.69
#1	-.0038	8.347	.0708	.6208	.0043	14.36	.0066
#2	-.0038	8.382	.0834	.6212	.0043	14.38	.0028
Elem	Co2286	Cr2677	Cu3247	Fe2599	K7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0103	.0170	.0380	8.947	.2024	2.926	.5940
SDev	.0006	.0052	.0023	.009	.2092	.005	.0003
%RSD	6.323	30.69	6.162	.0955	103.4	.1776	.0446
#1	.0108	.0207	.0397	8.941	.3503	2.930	.5942
#2	.0099	.0133	.0363	8.953	.0544	2.923	.5934
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.776	.0049	.1346	.0043	.0143	.0065	.0486
SDev	.016	.0061	.0065	.0132	.0069	.0127	.0015
%RSD	.5855	123.3	4.812	311.0	48.16	196.4	3.061
#1	2.788	.0006	.1300	.0136	.0192	-.0025	.0496
#2	2.765	.0092	.1392	-.0051	.0094	.0155	.0475



Elem Zn2138
Units ppm
Avg .0782
SDev .0012
%RSD 1.508
#1 .0774
#2 .0791

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32310	--	--	--	--	--	--
SDev	14.84924	--	--	--	--	--	--
%RSD	.0459594	--	--	--	--	--	--
#1	32320	--	--	--	--	--	--
#2	32299	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-02D SPK1 Operator: DQ
Run Time: 06/14/94 13:07:30
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2744
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8972	72.41	2.433	2.540	.9253	15.71	.9621
SDev	.0065	.14	.104	.006	.0028	.13	.0031
%RSD	.7290	.1907	4.274	.2309	.3073	.8090	.3191
#1	.8926	72.31	2.359	2.544	.9233	15.62	.9509
#2	.9018	72.51	2.506	2.536	.9273	15.80	.9643
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9689	1.029	.9422	38.77	11.08	7.999	1.697
SDev	.0029	.015	.0011	.22	.89	.124	.004
%RSD	.3044	1.437	.1208	.5660	8.005	1.546	.2389
#1	.9668	1.019	.9414	38.62	10.45	7.911	1.694
#2	.9710	1.040	.9430	38.93	11.71	8.086	1.700
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.553	.9848	1.144	.6603	1.982	1.963	1.027
SDev	.018	.0063	.022	.0120	.090	.076	.001
%RSD	.4942	.6367	1.904	1.824	4.562	3.896	.1195
#1	3.541	.9804	1.128	.6518	1.918	2.017	1.026
#2	3.565	.9893	1.159	.6688	2.046	1.909	1.027
Elem	Zn2138						
Units	ppm						
Avg	1.097						



SDev .007
%RSD .6529

#1 1.092
#2 1.102

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Avg	33170						
SDev	560.7357						
%RSD	1.690465						
#1	33567						
#2	32774						

Method: ENVIRO94 Sample Name: 6220-02D DSPK1 Operator: DQ
Run Time: 06/14/94 13:11:23
Comment:
Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2298
Units ppm ppm ppm ppm ppm ppm ppm
Avg 75.31 2.352 2.540 .9224 15.14 .9394
SDev .0094 .28 .007 .0026 .10 .0153
%RSD 1.052 .3656 .2779 .2827 .6901 1.679

#1 .8819 75.12 2.365 2.545 .9206 15.06 .9286
#2 .8951 75.51 2.340 2.535 .9243 15.21 .9302

Elem Co2286 Cr2677 Cu3247 Fe2599 K_7664 Mg2790 Hn2176
Units ppm ppm ppm ppm ppm ppm ppm
Avg .9541 1.025 .9354 39.91 10.22 8.065 1.629
SDev .0047 .004 .0016 .20 .51 .091 .011
%RSD .4944 .3649 .1701 .4983 5.002 1.130 .6382

#1 .9507 1.023 .9365 39.77 9.858 8.001 1.621
#2 .9574 1.028 .9343 40.05 10.58 8.130 1.636

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V_2024
Units ppm ppm ppm ppm ppm ppm ppm
Avg 3.335 .9637 1.083 .6372 1.910 1.845 1.029
SDev .004 .0138 .029 .0066 .007 .008 .003
%RSD .1325 1.436 2.723 1.043 .3426 .4147 .3341

#1 3.338 .9539 1.063 .6325 1.906 1.851 1.026
#2 3.332 .9735 1.104 .6419 1.915 1.840 1.011

Elem Zn2138
Units ppm
Avg 1.065
SDev .009
%RSD .8415

#1 1.059



#2 1.072

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Ave	33182	---	---	---	---	---	---
SDev	630.7393	---	---	---	---	---	---
%RSD	1.900848	---	---	---	---	---	---
#1	33628	---	---	---	---	---	---
#2	32736	---	---	---	---	---	---

Method: ENVIR094 Sample Name: CCV1

Run Time: 06/14/94 13:29:41

Comment:

Mode: CONC Corr. Factor: 1

Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	1.850	9.642	10.31	9.706	10.11	10.45	10.77
SDev	.000	.002	.18	.010	.02	.04	.07
%RSD	.0227	.0231	1.739	.1066	.2295	.4108	.7046
#1	1.849	9.644	10.44	9.699	10.13	10.48	10.32
#2	1.850	9.641	10.19	9.714	10.09	10.42	10.22

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	10.05	10.05	9.946	9.818	45.95	9.967	10.10
SDev	.03	.03	.025	.000	.60	.022	.02
%RSD	.2568	.3409	.2506	.0035	1.301	.2170	.1520
#1	10.07	10.08	9.929	9.817	46.37	9.952	10.12
#2	10.03	10.03	9.964	9.818	45.53	9.982	10.09

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	9.328	10.12	10.43	9.923	10.38	10.00	9.849
SDev	.066	.01	.01	.001	.02	.04	.017
%RSD	.7122	.1243	.1335	.0108	.1789	.3553	.1741
#1	9.281	10.13	10.42	9.922	10.37	9.977	9.861
#2	9.375	10.11	10.44	9.924	10.39	10.03	9.837

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00



Elem Zn2138
Units ppm
Avge Q11.32
SDev .06
%RSD .5206

#1 Q11.36
#2 Q11.28

Errors QC Fail
Value 10.00
Range 10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32928	--	--	--	--	--	--
SDev	239.7092	--	--	--	--	--	--
%RSD	.7279909	--	--	--	--	--	--
#1	33097	--	--	--	--	--	--
#2	32758	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCBI
Run Time: 06/14/94 13:33:41 Operator: DQ
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0016	.0300	-.0053	.0003	.0011	.0086	.0024
SDev	.0011	.0107	.0049	.0004	.0000	.0049	.0001
%RSD	69.45	35.57	93.19	141.4	3.078	57.21	5.159
#1	.0008	.0225	-.0018	.0006	.0011	.0051	.0023
#2	.0023	.0376	-.0088	.0000	.0011	.0121	.0024
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080
Elem	Co2286	Cr2677	Cu3247	Fe2599	K2664	Mg2790	In2476
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0005	.0007	.0023	-.2452	-.0068	.0014
SDev	.0024	.0027	.0009	.0032	.3084	.0250	.0005
%RSD	729.1	588.9	133.5	141.9	125.8	366.9	32.15
#1	.0021	.0015	.0013	.0045	-.0271	-.0245	.0014
#2	-.0014	-.0024	.0000	-.0000	-.4633	.0109	.0011
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020



Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0617	.0069	.0185	-.0251	.0906	-.0565	.0011
SDev	.0152	.0029	.0286	.0131	.0030	.0149	.0078
%RSD	24.67	42.95	154.6	52.02	3.341	26.42	260.3
#1	.0725	.0048	.0387	-.0344	.0885	-.0671	.0041
#2	.0510	.0090	-.0017	-.0159	.0927	-.0660	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Ave	.0052
SDev	.0018
%RSD	35.05

#1	.0039
#2	.0064

Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	33963	--	--	--	--	--	--
SDev	576.9991	--	--	--	--	--	--
%RSD	1.698905	--	--	--	--	--	--
#1	34371	--	--	--	--	--	--
#2	33555	--	--	--	--	--	--

Method: ENVTR094 Standard: STD2

Elem	Ba4934	Ca3179	Cd2288	Co2286	Cu3247	K_7664	Hg2790
Ave	1.003	.9423	.1689	.6888	.3604	.3115	.0681
SDev	.001	.0035	.0001	.0012	.0004	.0013	.0007
%RSD	.1168	.3667	.0559	.1729	.1153	.4088	2455
#1	1.002	.9447	.1690	.6896	.3607	.3124	.0680
#2	1.003	.9398	.1688	.6880	.3601	.3106	.0682
Elem	Mn2576	Pb2203	Zn2138				
Ave	.7979	.0734	.4094				
SDev	.0019	.0002	.0013				
%RSD	.2326	.3059	.3066				
#1	.7992	.0736	.4103				
#2	.7966	.0733	.4085				



IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030	--	--	--	--	--	--
Avg	34158	--	--	--	--	--	--
SDev	123.7437	--	--	--	--	--	--
%RSD	.3622738	--	--	--	--	--	--
#1	34070	--	--	--	--	--	--
#2	34245	--	--	--	--	--	--

Method: ENVIR094 Sample Name: CCV1
Run Time: 06/14/94 13:43:25 Operator: DQ
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2283
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.842	9.640	10.22	10.10	10.13	9.760	9.603
SDev	.001	.003	.02	.02	.00	.004	.021
%RSD	.0581	.0346	.2257	.1580	.0143	.0395	.2191
#1	1.842	9.642	10.23	10.09	10.13	9.763	9.618
#2	1.841	9.638	10.20	10.11	10.13	9.757	9.588
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	In2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.569	9.951	10.24	9.745	48.16	9.712	9.738
SDev	.006	.016	.00	.026	.01	.000	.006
%RSD	.0637	.1632	.0330	.2704	.0270	.0030	.0626
#1	9.565	9.962	10.24	9.763	48.17	9.712	9.742
#2	9.573	9.939	10.24	9.726	48.15	9.712	9.734
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2724
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.346	10.03	9.521	9.793	10.23	9.911	9.788
SDev	.037	.05	.004	.037	.01	.046	.007
%RSD	.4002	.5129	.0385	.3746	.1124	.4677	.0730
#1	9.319	10.07	9.523	9.819	10.23	9.878	9.794
#2	9.372	9.995	9.518	9.767	10.22	9.944	9.781
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Zn2138						



Units ppm
 Ave 10.61
 SDev .01
 XRS 1040

#1 10.61
 #2 10.60

Errors QC Pass
 Value 10.00
 Range 10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	34146	--	--	--	--	--	--
SDev	214.2534	--	--	--	--	--	--
XRS	.6274533	--	--	--	--	--	--
#1	33995	--	--	--	--	--	--
#2	34298	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCBI

Run Time: 06/14/94 13:47:20

Comment:

Mode: CONC Corr. Factor: 1

Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2299
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-.0029	.0051	-.0106	-.0009	.0006	.0024	.0004
SDev	.0010	.0016	.0370	.0004	.0007	.0014	.0024
XRS	35.81	30.78	349.7	46.81	120.1	57.54	540.5
#1	-.0036	.0040	.0156	-.0011	.0010	.0014	.0021
#2	-.0021	.0063	-.0367	-.0006	.0001	.0034	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0040
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0040
Elem	Co2286	Cr2677	Cu3247	Fe2599	K2664	Hg2790	Hu2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0020	-.0009	-.0004	.0029	-1.120	-.0367	.0002
SDev	.0012	.0002	.0023	.0001	.278	.0419	.0000
XRS	61.62	21.18	613.2	3.119	24.79	114.2	4.376
#1	.0011	-.0008	-.0020	.0030	-1.317	-.0663	.0002
#2	.0028	-.0010	.0013	.0028	-.9239	-.0071	.0003
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V2294
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm



Ave .0548 .0028 .0195 -.0083 -.0068 -.0046 -.0009
 SDev .0046 .0000 .0108 .0125 .0134 .0554 .0000
 %RSD 8.301 .0000 55.33 151.5 196.5 1200. .0003
 #1 .0580 .0028 .0271 -.0171 .0026 -.0438 -.0009
 #2 .0516 .0028 .0119 .0006 -.0162 .0346 .0009
 Errors LC Pass LC Pass LC Pass LC Pass LC Pass LC Pass
 High .2000 .0600 .1000 .1000 .2000 .2000 .0100
 Low -.2000 -.0600 -.1000 -.1000 -.2000 -.2000 -.0100

Elem Zn2138
 Units ppm
 Ave .0026
 SDev .0029
 %RSD 107.4

#1 .0047
 #2 .0006

Errors LC Pass
 High .0100
 Low -.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Ave	34656						
SDev	129.4005						
%RSD	.3733911						
#1	34747						
#2	34564						

Method: ENVI094 Sample Name: 6417-01A 1 Operator: DQ
 Run Time: 06/14/94 13:51:14

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2238
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-.0974	3.637	2.781	.4887	.0029	13.05	.0163
SDev	.0027	.021	.068	.0001	.0007	.09	.0249
%RSD	2.814	.5845	2.454	.0232	24.21	.6821	148.6
#1	-.0993	3.652	2.829	.4888	.0024	13.11	.0346
#2	-.0955	3.622	2.732	.4886	.0034	12.99	.0009
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.9179	25.33	2.407	2863.	1.553	.1380	21.70
SDev	.0116	.11	.011	27.	.064	.0192	.11
%RSD	1.265	.4470	.4495	.9507	4.107	13.90	.5155
#1	.9261	25.41	2.400	2882.	1.508	.1244	21.74



#2 .9097 25.25 2.415 2843. 1.598 .1515 21.62

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V_2024
Units ppm ppm ppm ppm ppm ppm ppm
Avg 3.210 1.544 1.262 .2945 .2447 9.566
SDev .018 .001 .016 .0616 .0348 .391
%RSD .5649 .0339 1.268 20.90 14.22 4.098 25.92

#1 3.223 1.544 1.250 .3380 .2693 9.289
#2 3.197 1.544 1.273 .2510 .2201 9.842

Elem Zn2138
Units ppm
Avg 64.42
SDev .54
%RSD .8406

#1 64.80
#2 64.03

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	30636	--	--	--	--	--	--
SDev	497.8032	--	--	--	--	--	--
%RSD	1.624896	--	--	--	--	--	--
#1	30284	--	--	--	--	--	--
#2	30988	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6285-01A 1 Operator: BQ
Run Time: 06/14/94 13:55:07
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0142	k21.79	.1372	49.66	.0044	k26.06	.3010
SDev	.0035	.62	.0251	.04	.0000	.26	.0009
%RSD	24.28	2.832	18.31	.0726	.6607	.9951	.3119
#1	-.0118	k21.36	.1550	49.69	.0044	k25.87	.3036
#2	-.0167	22.23	.1194	49.64	.0044	26.24	.3023
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0344	k7.968	35.81	k8.837	6.872	k6.124	.3399
SDev	.0011	.030	.04	.019	.782	.313	.0008
%RSD	3.159	.3823	.1151	.2190	11.37	5.119	.2254
#1	.0352	k7.946	35.78	k8.851	7.424	k6.346	.3394
#2	.0336	7.989	35.84	8.824	6.319	5.903	.3405
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm



Ave 8.732 .0823 k34.24 -1.378 k-.1540 k-.0073 k-.0168
 SDev .026 .0103 .03 .034 .0722 .0781 .0001
 %RSD .2932 12.58 .0875 2.487 46.90 1069. .4881
 #1 8.750 .0896 k34.21 -1.353 k-.2051 k-.0625 k-.0168
 #2 8.714 .0750 34.26 -1.402 -.1029 .0479 -.0169

Elem Zn2138
 Units ppm
 Ave S6842.
 SDev 7677.
 %RSD 112.2

#1 S12270.
 #2 1414.

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	31758	--	--	--	--	--	--
SDev	174.6554	--	--	--	--	--	--
%RSD	.5499485	--	--	--	--	--	--
#1	31882	--	--	--	--	--	--
#2	31635	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6119-OIC 1 Operator: DQ
 Run Time: 06/14/94 13:59:00
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Units	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2248
Ave	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
SDev	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
%RSD	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#2	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Elem	Units	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Ave	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
SDev	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
%RSD	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#2	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Elem	Units	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Ave	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
SDev	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
%RSD	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#2	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm



#1 5.097 .1026 k.2685 -.0728 k1.395 k.1296 k.0560
 #2 5.090 .1015 k.2737 -.0006 k1.232 k.0715 k.0529

Elem Zn2138
 Units ppm
 Ave k.8175
 SDev .0247
 %RSD 3.018

#1 k.8350
 #2 k.8001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	29290	--	--	--	--	--	--
SDev	239.7092	--	--	--	--	--	--
%RSD	.8183855	--	--	--	--	--	--
#1	29121	--	--	--	--	--	--
#2	29460	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-02C 1 Operator: BQ
 Run Time: 06/14/94 14:02:54
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Be3130 Ca3119 Cd2298
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave -.0148 111.3 .9516 .6633 .0079 7.129 .0064
 SDev .0043 .2 .1103 .0001 .0006 .038 .0001
 %RSD 28.96 .1798 11.59 .0191 7.974 .5295 1.984

#1 -.0118 111.5 .8736 .6634 .0075 7.156 .0064
 #2 -.0179 111.2 1.030 .6632 .0084 7.102 .0064

Elem Co2286 Cr2677 Cu3247 Fe2599 Hg2790 In2576
 Units ppm ppm ppm ppm ppm ppm
 Ave .0941 .1094 .1529 209.8 4.428 8.913 1.280
 SDev .0008 .0013 .0007 .6 .641 .011 .003
 %RSD .8564 1.186 .4456 .2708 14.468 .1179 1.984

#1 .0935 .1085 .1524 210.2 4.882 8.905 1.282
 #2 .0946 .1103 .1533 209.4 3.975 8.920 1.279

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V2924
 Units ppm ppm ppm ppm ppm ppm
 Ave 2.970 .1017 .1655 -.0190 .0333 .2154
 SDev .010 .0293 .0263 .0063 .0807 .0197 .0011
 %RSD .3238 28.84 15.91 33.02 242.1 22.03 .5116

#1 2.977 .0810 .1469 -.0235 .0904 .1032 .2162
 #2 2.963 .1224 .1841 -.0146 -.0237 .0754 .2146

Elem Zn2138



Units ppm
 Ave .3348
 SDev .0002
 %RSD .0494
 #1 .3349
 #2 .3347

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Ave	32137						
SDev	367.6955						
%RSD	1.144150						
#1	31877						
#2	32397						

Method: ENVIRO94 Sample Name: 6119-03C 1 Operator: DQ
 Run Time: 06/14/94 14:06:47
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2708
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-.0032	k27.38	.2820	1.018	.0058	S5866.	.0052
SDev	.0012	.02	.0004	.004	.0000	11.	.0024
%RSD	37.13	.0751	.1281	.3693	.2122	.1837	94.00
#1	-.0024	k27.39	.2822	1.021	.0058	S5874.	.0072
#2	-.0041	k27.36	.2817	1.015	.0058	S5859.	.0032
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0338	k.2586	.1970	k94.61	10.53	k184.1	5.053
SDev	.0040	.0016	.0009	.18	.26	.6	.011
%RSD	11.98	.6041	.4829	.1947	2.470	.3280	.2141
#1	.0309	k.2597	.1963	k94.48	10.35	k183.7	5.045
#2	.0366	k.2575	.1977	k94.74	10.72	k184.6	5.060
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	4.824	.0814	k.3729	.0441	k1.354	k-.1056	k.0722
SDev	.012	.0064	.0461	.0216	.061	.0110	.0063
%RSD	.2573	7.858	12.36	49.03	4.509	10.38	8.705
#1	4.833	.0769	k.4055	.0594	k1.397	k-.0979	k.0674
#2	4.815	.0859	k.3404	.0288	k1.310	k-.1134	k.0767
Elem	Zn2138						
Units	ppm						
Ave	k.7845						
SDev	.0043						
%RSD	.5488						



#1 k.7815
#2 k.7876

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	29941	--	--	--	--	--	--
SDev	55.15433	--	--	--	--	--	--
%RSD	.1842100	--	--	--	--	--	--
#1	29902	--	--	--	--	--	--
#2	29980	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-04C 1 Operator: BQ
Run Time: 06/14/94 14:10:40

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2248
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0211	123.7	1.093	1.000	.0115	8.404	.0027
SDev	.0002	.3	.049	.003	.0001	.044	.0001
%RSD	.9149	.2523	4.526	.2794	1.017	.5243	2.603

#1	-.0210	123.4	1.128	1.002	.0115	8.373	.0026
#2	-.0212	123.9	1.058	.9983	.0116	8.435	.0027

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Hn2176
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0577	.1722	.1277	271.5	2.815	8.477	.6235
SDev	.0050	.0017	.0012	1.1	1.042	.064	.0001
%RSD	8.716	1.003	.9572	.4089	37.02	.7537	.0207

#1	.0542	.1734	.1268	270.8	2.078	8.432	.6236
#2	.0613	.1710	.1286	272.3	3.552	8.522	.6234

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.152	.1015	.1537	.0327	.0015	.1802	.2942
SDev	.014	.0040	.0150	.0406	.0166	.0225	.0001
%RSD	.4429	3.909	9.767	124.2	1105.	12.49	.0411

#1	3.142	.0987	.1644	.0040	-.0103	.1643	.2943
#2	3.162	.1043	.1431	.0615	.0133	.1962	.2941

Elem	Zn2138
Units	ppm
Avg	.3034
SDev	.0023
%RSD	.7659

#1	.3017
#2	.3050



IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Havlen	371.030	--	--	--	--	--	--
Avg	32250	--	--	--	--	--	--
SDev	304.7630	--	--	--	--	--	--
%RSD	.9450163	--	--	--	--	--	--
#1	32465	--	--	--	--	--	--
#2	32034	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-05C 1 Operator: BQ
Run Time: 06/14/94 14:14:34
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0231	88.58	.7986	.6881	.0073	17.01	.0080
SDev	.0011	.07	.0019	.0011	.0000	.03	.0025
%RSD	4.951	.0812	.2426	.1600	.2495	.1739	31.69

#1	-.0239	88.53	.7972	.6889	.0073	16.98	.0062
#2	-.0223	88.64	.7999	.6873	.0073	17.03	.0098

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Hn2766
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1159	.1157	.2235	214.1	3.785	17.59	6.490
SDev	.0015	.0044	.0029	.1	.069	.01	.002
%RSD	1.312	3.823	1.291	.0314	1.831	.0596	.0107

#1	.1169	.1188	.2256	214.1	3.736	17.58	6.491
#2	.1148	.1126	.2215	214.2	3.834	17.60	6.489

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.776	.1741	.1625	-.0103	.0042	.1286	.1993
SDev	.028	.0415	.0422	.0065	.0782	.0513	.0005
%RSD	1.015	23.84	25.95	62.43	1854.	39.88	2452

#1	2.756	.1448	.1923	-.0149	.0595	.0923	.1997
#2	2.796	.2035	.1326	-.0058	-.0511	.1648	.1990

Elem	Zn2138						
Units	ppm						
Avg	.5688						
SDev	.0035						
%RSD	.6203						

#1	.5713						
#2	.5663						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						



Method: ENVIRO94 Sample Name: 6119-06C 1
Run Time: 06/14/94 14:18:27 Operator: DQ

Comment:

Mode: CONC . Corr. Factor: 1

Method: ENVIRO94 Sample Name: 6119-06C 1
Run Time: 06/14/94 14:18:27 Operator: DQ

Comment:

Mode: CONC . Corr. Factor: 1

Elem	Units	Al 3082	Ag 1936	Ba 4934	Re 3130	Ca 1179	0127243
Ag 3280	ppm	22.17	.1649	.1012	.0025	2.827	.0023
	Ave	.00	.0106	.0002	.0007	.036	.0000
	Sdev	.0124	6.455	.1869	28.02	1.260	1.930
	%RSD	23.43					

#1	- .0037	22.17	-.1724	.1011	.0031	2.852	.0027
#2	-.0051	22.17	.1574	.1014	.0020	2.802	.0027

Elem	Units	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Ni2790	Mn2576
	ppm		ppm	ppm	ppm	ppm	ppm	ppm
	Avgc	.0191	.0165	.0614	50.40	1.983	1.912	.6254
	SDev	.0026	.0013	.0007	.21	.145	.018	.0019
	%RSD	13.36	8.132	1.122	.4229	7.326	.9478	.3007

#1	.0209	.0155	.0610	50.55	1.880	1.899	.6267
#2	.0173	.0174	.0619	50.25	2.085	1.925	.6240

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	2.505	.0261	.0663	.0102	.0533	-.00008	.0457
SDev	.003	.0016	.0124	.0130	.0287	.0197	.00372
%RSD	.1237	6.059	18.70	126.5	53.86	236.3	6.924

$\phi 1$	2.507	.0273	.0751	.0194	.0330	-.0147	.0472
$\phi 2$	2.503	.0250	.0576	.0011	.0736	.0131	.0435

Elem	Zn
Units	ppm
Avg	.1958
SDev	.0055
%RSD	2.827

#1 .1997
#2 .1919

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Avge	34089	--	--	--	--	--	--
SDev	214.9605	--	--	--	--	--	--



	%RSD	.6305860	--	--	--	--	--
#1	33937	--	--	--	--	--	--
#2	34241	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-07C 1 Operator: D0
 Run Time: 06/14/94 14:22:21
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Units	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Avg	ppm	70.63	70.63	.5975	.7538	.0074	468.2	.0063
SDev	ppm	.01	.01	.0136	.0014	.0000	.2	.0051
%RSD		6.260	.0116	2.269	.1859	.2441	.0431	81.97
#1		-.0163	70.64	.6071	.7529	.0074	468.3	.0026
#2		-.0178	70.63	.5879	.7548	.0073	468.0	.0099
Elem	Units	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mn2790	Mn2576
Avg	ppm	.0789	.1046	.1749	168.3	6.231	24.96	6.705
SDev	ppm	.0008	.0000	.0016	.0	.046	.03	.005
%RSD		1.029	.0039	.9126	.0234	.7406	.1189	.0714
#1		.0794	.1046	.1761	168.3	6.264	24.98	6.708
#2		.0783	.1046	.1738	168.3	6.199	24.94	6.702
Elem	Units	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Avg	ppm	3.353	.1309	.1259	-.0426	.1099	.0204	.1538
SDev	ppm	.014	.0063	.0125	.0132	.0088	.0363	.0026
%RSD		.4051	4.827	9.934	31.03	7.961	178.1	1.719
#1		3.362	.1353	.1348	-.0333	.1161	-.0053	.1520
#2		3.343	.1264	.1171	-.0520	.1037	.0460	.1557
Elem	Units	Zn2138						
Avg	ppm	.4904						
SDev	ppm	.0076						
%RSD		1.548						
#1		.4958						
#2		.4851						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32432	--	--	--	--	--	--
SDev	70.71068	--	--	--	--	--	--
%RSD	.2180275	--	--	--	--	--	--
#1	77382	--	--	--	--	--	--



#2 32482 -- -- -- --

Method: ENVIRO94 Sample Name: 6119-08C 1 Operator: DQ

Run Time: 06/14/94 14:26:15

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2283
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0231	93.72	.7834	.6489	.0092	7.177	.0047
SDev	.0003	.31	.1180	.0000	.0009	.016	.0025
%RSD	1.330	.3315	15.06	.0043	9.657	.2273	54.02

#1	-.0233	93.50	.7000	.6488	.0098	7.189	.0029
#2	-.0229	93.94	.8668	.6489	.0085	7.166	.0064

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1140	.1165	.2152	225.2	5.026	19.46	4.289
SDev	.0049	.0018	.0058	.2	.797	.05	.009
%RSD	4.254	1.543	2.686	.0762	15.86	.2526	.077

#1	.1174	.1177	.2111	225.3	4.463	19.42	4.291
#2	.1106	.1152	.2192	225.0	5.590	19.49	4.287

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.723	.1645	.1864	.0198	.0575	.1326	.2124
SDev	.001	.0318	.0234	.0058	.0727	.0515	.0001
%RSD	.0353	19.35	12.56	29.27	126.5	38.86	.0126

#1	2.723	.1420	.2030	.0157	.1089	.0961	.2125
#2	2.722	.1870	.1699	.0239	.0061	.1690	.2124

Elem	Zn2138
Units	ppm
Avg	.5241
SDev	.0080
%RSD	1.531

#1	.5298
#2	.5185

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	31638	--	--	--	--	--	--
SDev	433.4565	--	--	--	--	--	--
%RSD	1.370029	--	--	--	--	--	--

#1	31332
#2	31945



Method: ENVIR094 Sample Name: CCV2
 Run Time: 06/14/94 14:39:55
 Comment:
 Mode: CONC Corr. Factor: 1

Operator: DD

Elem	Ar3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2200
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.844	9.648	10.29	10.04	10.08	9.801	9.752
SDev	.005	.060	.09	.02	.01	.058	.020
%RSD	.2549	.6192	.8267	.1568	.1288	.5890	.2016
#1	1.841	9.606	10.35	10.05	10.07	9.760	9.734
#2	1.847	9.691	10.23	10.03	10.09	9.842	9.766
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.643	10.01	10.19	9.809	47.46	9.829	9.821
SDev	.035	.05	.00	.035	.38	.022	.025
%RSD	.3614	.5047	.0050	.3610	.7937	.2240	.2580
#1	9.618	9.979	10.19	9.784	47.73	9.813	9.809
#2	9.667	10.05	10.19	9.834	47.20	9.844	9.845
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.420	10.17	9.685	9.890	10.27	10.22	9.816
SDev	.001	.12	.047	.066	.07	.02	.024
%RSD	.0069	1.210	.4805	.6636	.6847	.2346	.2433
#1	9.420	10.09	9.652	9.843	10.22	10.20	9.799
#2	9.419	10.26	9.718	9.936	10.32	10.23	9.833
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Zn2138						
Units	ppm						
Avg	10.69						
SDev	.05						
%RSD	.4977						
#1	10.65						
#2	10.73						
Errors	QC Pass						
Value	10.00						
Range	10.00						



IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030	--	--	--	--	--	--
Avg	32552	--	--	--	--	--	--
SDev	451.8413	--	--	--	--	--	--
%RSD	1.388081	--	--	--	--	--	--
#1	32871	--	--	--	--	--	--
#2	32232	--	--	--	--	--	--

Method: ENVIR094 Sample Name: CCH2
Run Time: 06/14/94 14:43:50
Comment:
Mode: CONC Corr. Factor: 1

Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0022	.0488	-.0446	.0000	.0011	-.0123	.0007
SDev	.0000	.0102	.0269	.0000	.0000	.0037	.0025
%RSD	.5496	20.80	60.23	.0000	1.404	30.42	364.2

#1	-.0022	.0560	-.0636	.0000	.0011	-.0097	.0024
#2	-.0022	.0417	-.0256	.0000	.0011	-.0150	-.0011

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0036	.0028	.0015	-.4421	.0023	.0019
SDev	.0031	.0010	.0013	.0022	.0927	.0253	.0011
%RSD	33530.	28.05	47.66	151.8	20.96	1097.	58.14

#1	-.0022	-.0043	.0018	.0030	-.3766	-.0156	.0011
#2	.0022	-.0029	.0037	-.0001	-.5077	.0202	0.0027

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Ti1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0667	.0049	.0161	.0076	.0035	-.0086	.0012
SDev	.0037	.0030	.0008	.0199	.0723	.0206	.0029
%RSD	5.525	61.04	4.927	261.2	2094.	238.0	253.4

#1	.0693	.0028	.0156	-.0065	.0546	-.0232	.0032
#2	.0641	.0070	.0167	.0217	-.0477	.0039	-.0009

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem Zn2138



Units ppm
 Ave .0060
 SDev .0014
 %RSD 23.03

#1 .0050
 #2 .0070

Errors LC Pass
 High .0100
 Low -.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Ave	33072						
SDev	261.6295						
%RSD	.7910907						
#1	33257						
#2	32887						

Method: ENVIRO94 Sample Name: 6119-09C 1 Operator: DQ
 Run Time: 06/14/94 14:47:44
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-.0205	83.52	.6512	.4855	.0078	11.22	.0069
SDev	.0023	.17	.0211	.0038	.0000	.05	.0055
%RSD	11.16	.2057	3.242	.7920	.2767	.4633	.79.49
#1	-.0221	83.40	.6661	.4882	.0078	11.18	.0030
#2	-.0188	83.64	.6363	.4828	.0078	11.25	.0108
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0986	.1112	.2774	174.2	3.990	13.61	3.982
SDev	.0023	.0021	.0006	.4	.014	.12	.016
%RSD	2.291	1.866	.2006	.2458	.3617	.8456	.4042
#1	.0970	.1126	.2778	173.9	4.000	13.53	3.971
#2	.1002	.1097	.2770	174.5	3.979	13.69	3.994
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	2.985	.1245	.1566	.0072	-.0046	.1037	.1942
SDev	.030	.0003	.0120	.0559	.0067	.0763	.0037
%RSD	.9890	.2431	7.644	772.1	146.5	73.54	1.886
#1	2.964	.1243	.1650	-.0323	-.0094	.0498	.1916
#2	3.006	.1247	.1481	.0468	.0002	.1577	.1969
Elem	Zn2138						



IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	30717	--	--	--	--	--	--
SDev	76.36753	--	--	--	--	--	--
%RSD	.2486165	--	--	--	--	--	--
#1	30771	--	--	--	--	--	--
#2	30663	--	--	--	--	--	--

Method: ENVI094 Sample Name: 6119-10C
Run Time: 06/14/94 14:51:37
Comment:
Mode: CONC Corr. Factor: 1
Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca4179	Ca42298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-.0149	175.6	1.456	.9715	.0095	9.635	.0027
StDev	.0000	.1	.020	.0032	.0000	.015	.0104
%RSD	.2457	.0350	1.358	.3298	.2812	.1554	386.2
#1	-.0148	175.6	1.470	.9737	.0095	9.625	-.0047
#2	-.0149	175.5	1.443	.9692	.0095	9.646	.0101

Elem	Units	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
	ppm		ppm	ppm	ppm	ppm	ppm	ppm
	Ave	.0687	.1751	.3490	292.2	5.042	12.98	.7592
	SDev	.0030	.0016	.0009	.4	.241	.04	.0014
	RMSD	4.378	.9129	.2585	.1211	4.786	.3137	.1775

#1	.0709	.1740	.3484	291.9	4.871	12.95	.7601
#2	.0566	.1762	.3497	292.4	5.212	12.01	.7522

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.818	.1438	.1910	.0139	.0998	.1932	.3140
Dev	.007	.0049	.0011	.0664	.0524	.0230	.0001
RSD	.2486	3.428	.6010	478.9	52.48	11.88	.2152
1	2.823	.1403	.1902	.0609	.0627	.2094	.3144
2	2.813	.1473	.1918	-.0331	.1368	.1770	.3135

Elem	Zn2138
Units	ppm
Avg	.5656
Dev	.0016
psn	.2879



#1 .5667
#2 .5644

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y						
Wavlen	371.030						
Avgc	32148						
SDev	82.73149						
%RSD	.2573417						
#1	32207	--	--	--	--	--	--
#2	32090	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-11C 1 Operator: DQ
Run Time: 06/14/94 14:55:30

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0090	42.07	.4269	.9626	.0057	1424.	.0051
SDev	.0000	.01	.0306	.0033	.0000	7.	.0027
%RSD	.4935	.0123	7.165	.3392	.6150	.4820	53.21
#1	-.0091	42.08	.4053	.9603	.0058	1428.	.0032
#2	-.0090	42.07	.4485	.9649	.0057	1419.	.0070
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0546	.0743	.2444	190.2	9.050	215.6	8.795
SDev	.0071	.0019	.0052	.6	.846	.2	.029
%RSD	13.01	2.534	2.143	.3070	9.349	.1065	.3267
#1	.0596	.0757	.2481	190.6	9.649	215.8	8.815
#2	.0495	.0730	.2407	189.8	8.452	215.4	8.774
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	4.775	.1390	.2153	-.0420	.4046	.2233	.0994
SDev	.005	.0088	.0018	.0001	.0183	.0081	.0010
%RSD	.0947	6.345	.8267	.1272	4.528	3.609	1.053
#1	4.778	.1453	.2166	-.0419	.3916	.2290	.0985
#2	4.771	.1328	.2141	-.0420	.4176	.2176	.1000
Elem	Zn2138						
Units	ppm						
Avgc	.5743						
SDev	.0002						
%RSD	.0357						
#1	.5742						
#2	.5745						



IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avgc	30238	--	--	--	--	--	--
SDev	161.2203	--	--	--	--	--	--
%RSD	.5331714	--	--	--	--	--	--
#1	30124	--	--	--	--	--	--
#2	30352	--	--	--	--	--	--

Method: ENVIR094 Sample Name: 6119-12C I Operator: DQ
Run Time: 06/14/94 14:59:23
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	-.0136	43.58	.3678	.5142	.0055	17.25	.0029
SDev	.0001	.10	.0741	.0001	.0000	.07	.0004
%RSD	.4050	.2313	20.16	.0112	.4943	.3892	186.2

#1	-.0136	43.50	.4202	.5143	.0055	17.21	.0009
#2	-.0136	43.65	.3154	.5142	.0055	17.30	.0067

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	.0428	.0768	.1152	94.86	1.676	9.336	1.312
SDev	.0018	.0043	.0007	.22	.363	.026	.004
%RSD	4.138	5.615	.6240	.2311	21.63	.2789	.3055

#1	.0440	.0738	.1157	94.71	1.932	9.355	1.315
#2	.0415	.0799	.1147	95.02	1.419	9.318	1.302

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avgc	2.524	.0403	.1235	-.0037	.0549	.0355	.1202
SDev	.012	.0126	.0114	.0139	.0052	.0449	.0041
%RSD	.4587	31.36	9.215	377.0	9.396	126.5	3.439

#1	2.515	.0314	.1315	-.0135	.0586	.0037	.1232
#2	2.532	.0493	.1154	.0061	.0513	.0673	.1173

Elem	Zn2138						
Units	ppm						
Avgc	.2426						
SDev	.0056						
%RSD	2.317						

#1	.2386						
#2	.2465						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--



Wavlen	371.030	--	--	--	--	--	--	--	--
Avg	31366	--	--	--	--	--	--	--	--
SDev	133.6432	--	--	--	--	--	--	--	--
%RSD	.4260834	--	--	--	--	--	--	--	--
#1	31460	--	--	--	--	--	--	--	--
#2	31271	--	--	--	--	--	--	--	--

Method: ENV1R094 Sample Name: 6119-13C 1 Operator: DQ
Run Time: 06/14/94 15:03:16
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2248
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0168	56.03	.4162	.7460	.0076	33.94	.0028
SDev	.0001	.07	.0289	.0004	.0000	.06	.0000
%RSD	.4011	.1187	6.931	.0574	.4663	.1761	1.104
#1	-.0168	55.99	.4366	.7463	.0076	33.98	.0029
#2	-.0167	56.08	.3958	.7457	.0076	33.90	.0028

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0869	.0784	.2452	117.1	3.029	10.42	8.242
SDev	.0003	.0018	.0002	.1	.501	.03	.010
%RSD	.3183	2.240	.0813	.0571	16.56	.2703	.1173
#1	.0867	.0797	.2451	117.1	3.383	10.40	8.249
#2	.0871	.0772	.2454	117.0	2.674	10.44	8.235

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.755	.1017	.1379	.0057	.0162	.0084	.1454
SDev	.039	.0214	.0234	.0002	.0460	.0719	.0006
%RSD	1.432	21.00	16.96	4.198	283.6	865.7	.4434
#1	2.783	.0866	.1214	.0059	.0488	-.0592	.1459
#2	2.727	.1168	.1545	.0056	-.0163	.0426	.1450

Elem	Zn2138
Units	ppm
Avg	.5023
SDev	.0012
%RSD	.2387
#1	.5031
#2	.5014

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	31476	--	--	--	--	--	--
SDev	131.5219	--	--	--	--	--	--



%RSD .4178481 -- -- -- --
 #1 31383 -- -- -- --
 #2 31569 -- -- -- --

Method: ENVIRO94 Sample Name: 6119-14C 1 Operator: DQ
 Run Time: 06/14/94 15:07:10
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ar3280 Al3082 As1936 Ba4934 Be3130 Ca3179 Cd2299
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave -.0179 146.3 1.246 .9526 .0100 9.063 .0021
 SDev .0022 .0 .020 .0023 .0007 .006 .0042
 %RSD 12.49 .0051 1.599 .2395 7.192 .0675 .1958

#1 -.0163 146.3 1.260 .9543 .0105 .0059 .0010
 #2 -.0195 146.3 1.232 .9510 .0095 .0068 .0063

Elem Co2286 Cr2677 Cu3247 Fe2599 K_7664 Mg2790 Mn2576
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave .0575 .1752 .2225 325.9 3.115 11.73 .7416
 SDev .0007 .0006 .0022 .1 .637 .07 .0024
 %RSD 1.237 .3235 .9670 .0392 20.45 .5801 .3162

#1 .0570 .1756 .2240 325.8 3.565 11.78 .7433
 #2 .0581 .1748 .2210 326.0 2.665 11.68 .7400

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Ti1908 V_2924
 Units ppm ppm ppm ppm ppm ppm ppm
 Ave 2.714 .1334 .2011 -.0566 .0453 .2367 .2987
 SDev .011 .0331 .0185 .0464 .0251 .0996 .0011
 %RSD .4047 24.85 9.179 81.85 55.42 42.09 .3703

#1 2.722 .1568 .1880 -.0894 .0631 .1662 .2995
 #2 2.706 .1099 .2141 -.0239 .0276 .3071 .2979

Elem Zn2138
 Units ppm
 Ave .4348
 SDev .0026
 %RSD .5941

#1 .4367
 #2 .4330

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	32334	--	--	--	--	--	--
SDev	41.01219	--	--	--	--	--	--
%RSD	.1268392	--	--	--	--	--	--
#1	32363	--	--	--	--	--	--



#2 32305 -- -- --

Method: ENVIRO94 Sample Name: LCSS PB X50 1 Operator: DQ
 Run Time: 06/14/94 15:11:03
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.2801	-.0186	.0401	.0011	9.205	.0050
SDev	.0011	.0093	.0178	.0010	.0000	.011	.0050
%RSD	1263.	3.336	95.99	2.538	1.085	.1186	85.33
#1	-.0007	.2867	-.0060	.0408	.0011	9.197	.0023
#2	.0008	.2735	-.0311	.0394	.0011	9.213	.0095
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0194	.0422	.1416	1.090	-.1142	.4403	.0373
SDev	.0001	.0028	.0002	.002	.2812	.0090	.0003
%RSD	.7004	6.627	.1658	.1816	246.2	2.037	.7670
#1	.0193	.0403	.1418	1.092	.0846	.4340	.0375
#2	.0195	.0442	.1414	1.089	-.3130	.4467	.0371
Elem	Na5089	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2024
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2988	-.0044	17.17	-.0204	.0176	-.0724	.0031
SDev	.0027	.0043	.01	.0066	.0385	.0210	.0029
%RSD	.8972	97.69	.0372	32.24	219.1	28.95	92.98
#1	.3007	-.0075	17.17	-.0250	-.0096	-.0576	.0051
#2	.2969	-.0014	17.18	-.0157	.0448	-.0872	.0011
Elem	Zn2138						
Units	ppm						
Avg	12.46						
SDev	.02						
%RSD	.1220						
#1	12.47						
#2	12.44						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	33562	--	--	--	--	--	--
SDev	202.9397	--	--	--	--	--	--
%RSD	.6046619	--	--	--	--	--	--
#1	33706	--	--	--	--	--	--
#2	33419	--	--	--	--	--	--



Method: ENVIRO94 Sample Name: 6285-01A X10 Operator: DQ
 Run Time: 06/14/94 15:25:41
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3119	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0037	2.283	-.0059	4.938	.0011	2.849	.0160
SDev	.0000	.002	.0099	.001	.0000	.012	.0001
%RSD	.2811	.1090	167.7	.0204	.6197	.4319	.0014
#1	-.0037	2.285	.0011	4.937	.0011	2.857	.0161
#2	-.0037	2.281	-.0130	4.938	.0011	2.840	.0159
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2190	Hu2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.8589	3.690	.9498	.1936	.6523	.0379
SDev	.0006	.0052	.001	.0053	.2308	.0085	.0004
%RSD	14.94	.6005	.0336	.5578	119.2	1.297	1.020
#1	.0047	.8625	3.689	.9535	.3568	.6583	.0376
#2	.0038	.8552	3.691	.9461	.0304	.6463	.0302
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9275	.0049	3.887	-.1687	.0413	.0039	-.0010
SDev	.0179	.0145	.008	.0250	.0571	.0692	.0000
%RSD	1.933	299.5	.2039	14.82	138.3	1797.	.0422
#1	.9402	.0151	3.892	-.1510	.0009	.0578	-.0010
#2	.9148	-.0054	3.881	-.1864	.0816	-.0451	-.0010

Elem	Zn2138
Units	ppm
Avg	375.4
SDev	1.5
%RSD	.4053

#1	376.4
#2	374.3

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	33711	--	--	--	--	--	--
SDev	115.9655	--	--	--	--	--	--
%RSD	.3439990	--	--	--	--	--	--
#1	33629	--	--	--	--	--	--
#2	33793	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-01C X10 Operator: DQ
 Run Time: 06/14/94 15:29:35



Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0022	1.677	-.0138	.0613	.0022	196.7	.0044
SDev	.0022	.009	.0281	.0013	.0000	.4	.0026
%RSD	98.60	.5426	204.4	2.176	.0911	.1906	58.64
#1	-.0038	1.670	.0061	.0623	.0022	197.0	.0062
#2	-.0007	1.683	-.0337	.0604	.0022	196.4	.0026
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2776
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0069	.0266	9.801	-.1905	23.08	.4704
SDev	.0013	.0001	.0024	.019	.1314	.03	.0019
%RSD	39.87	1.751	9.131	.1892	68.99	.1282	.3938
#1	.0023	.0070	.0283	9.814	-.2834	23.06	.4691
#2	.0040	.0068	.0249	9.788	-.0975	23.10	.4717
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5149	-.0025	.0493	.0082	.0785	-.0018	.0046
SDev	.0150	.0015	.0001	.0065	.0202	.0337	.0000
%RSD	2.907	59.26	.1920	79.22	25.74	1903.	.0569
#1	.5255	-.0015	.0494	.0036	.0928	-.0256	.0046
#2	.5043	-.0036	.0492	.0128	.0642	.0221	.0046
Elem	Zn2138						
Units	ppm						
Avg	.0956						
SDev	.0032						
%RSD	3.405						
#1	.0979						
#2	.0933						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32698	--	--	--	--	--	--
SDev	21.21320	--	--	--	--	--	--
%RSD	.0648761	--	--	--	--	--	--
#1	32683	--	--	--	--	--	--
#2	32713	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-03C X10 1 Operator: DQ
 Run Time: 06/14/94 15:33:28
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm



Avg	- .0022	2.675	.0035	.1001	.0021	239.4	.0007
SDev	.0000	.003	.0108	.0000	.0001	.9	.0076
%RSD	1.168	.1170	309.0	.0219	2.372	.3934	.367.6
#1	- .0022	2.677	- .0041	.1001	.0021	238.7	- .0011
#2	- .0022	2.672	.0111	.1001	.0022	240.1	.0076
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2716
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0266	.0203	10.38	- .0175	18.74	.5449
SDev	.0013	.0010	.0017	.02	.6698	.09	.0018
%RSD	43.68	3.689	8.558	.1803	3829.	.4872	.3217
#1	.0021	.0273	.0191	10.36	- .4911	18.68	.5477
#2	.0040	.0259	.0216	10.39	.4562	18.81	.5402
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1060	Tl1908	V_2724
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4884	.0321	.0595	.0031	.0944	- .0724	.0087
SDev	.0115	.0034	.0317	.0139	.0292	.0699	.0002
%RSD	2.346	10.76	53.19	454.3	30.90	96.66	2.001
#1	.4803	.0297	.0371	- .0068	.0738	- .1218	.0086
#2	.4965	.0345	.0819	.0129	.1150	- .0229	.0088
Elem	Zn2138						
Units	ppm						
Avg	.0906						
SDev	.0011						
%RSD	1.199						
#1	.0899						
#2	.0914						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	33086	--	--	--	--	--	--
SDev	556.4930	--	--	--	--	--	--
%RSD	1.681934	--	--	--	--	--	--
#1	33480	--	--	--	--	--	--
#2	32693	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV3 Operator: DQ
 Run Time: 06/14/94 15:41:50
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca1179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.845	9.651	10.34	10.04	10.06	9.828	9.830
SDev	.003	.027	.04	.01	.00	.023	.025
%RSD	.1509	.2802	.3873	.0900	.0182	.2311	.2532



#1	1.847	9.670	10.32	10.04	10.06	9.844	9.813
#2	1.843	9.632	10.37	10.03	10.06	9.812	9.848
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.641	10.02	10.18	9.787	47.65	9.790	9.831
SDev	.024	.01	.01	.001	.49	.056	.005
%RSD	.2456	.0734	.0889	.0118	1.032	.5702	.0513
#1	9.658	10.01	10.18	9.786	48.00	9.830	9.835
#2	9.625	10.02	10.19	9.788	47.30	9.751	9.823
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Mn5889	Ni2316	Pb2203	Sb2068	Se1960	Ti1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.382	10.13	9.736	9.821	10.26	10.15	9.801
SDev	.009	.08	.003	.104	.06	.00	.007
%RSD	.0981	.7754	.0274	1.060	.5647	.0182	.0715
#1	9.389	10.18	9.734	9.895	10.22	10.15	9.796
#2	9.376	10.07	9.737	9.747	10.30	10.14	9.806
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Zn2138						
Units	ppm						
Avg	10.68						
SDev	.02						
%RSD	.2008						
#1	10.70						
#2	10.67						
Errors	QC Pass						
Value	10.00						
Range	10.00						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32454	--	--	--	--	--	--
SDev	48.08326	--	--	--	--	--	--
%RSD	.1481582	--	--	--	--	--	--
#1	32488	--	--	--	--	--	--
#2	32420	--	--	--	--	--	--



Method: ENVIR094 Sample Name: CCB3 Operator: DQ

Run Time: 06/14/94 15:45:46

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2753
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0038	.0404	.0138	-.0015	.0012	-.0134	.0025
SDev	.0022	.0049	.0178	.0013	.0000	.0011	.0000
%RSD	58.27	12.05	128.6	85.05	.5550	8.116	.8936
#1	-.0022	.0369	.0264	-.0006	.0012	-.0126	.0025
#2	-.0053	.0438	.0012	-.0024	.0012	-.0141	.0026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080
Elem	Co2286	Cr2677	Cu3247	Fe2599	K7664	Hg2790	Hn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0009	.0008	-.0005	.0007	-1.274	-.0111	.0016
SDev	.0031	.0013	.0012	.0012	1.056	.0063	.0016
%RSD	365.7	174.1	229.5	162.9	82.85	56.97	103.4
#1	-.0031	.0017	.0003	.0016	-.5277	-.0066	H.0027
#2	.0014	-.0002	-.0013	-.0001	L-2.021	-.0156	.0004
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0504	.0007	-.0039	-.0243	.0151	-.0415	.0022
SDev	.0137	.0030	.0061	.0001	.0353	.0417	.0015
%RSD	27.17	447.3	157.8	.3591	234.1	100.6	66.07
#1	.0601	-.0014	-.0082	-.0243	-.0099	-.0709	.0033
#2	.0407	.0028	.0004	-.0242	.0401	-.0120	.0012
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100
Elem	Zn2138						
Units	ppm						
Avg	.0041						
SDev	.0022						
%RSD	54.36						
#1	.0025						
#2	.0057						
Errors	LC Pass						
High	.0100						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Havlen	371.030	--	--	--	--	--	--
Avge	32798	--	--	--	--	--	--
SDev	103.2376	--	--	--	--	--	--
*RSD	.3147680	--	--	--	--	--	--
#1	32871	--	--	--	--	--	--
#2	32725	--	--	--	--	--	--

Method: ENVIR094 Sample Name: ICSAF
Run Time: 06/14/94 15:49:41
Comment:
Mode: CONC Corr. Factor: 1
Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca42288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	-0.0070	505.3	3.658	.0220	.0022	478.6	-0.0065
SDev	.0000	.5	.068	.0014	.0000	.6	.0026
%RSD	.4144	.1083	1.867	6.433	.6401	.1301	39.80
#1	-0.0069	504.9	3.609	.0210	.0022	478.2	-0.0083
#2	-0.0070	505.7	3.706	.0230	.0022	479.1	-0.0047
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		500.0				500.0	
Range		20.00				20.00	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Ni2790	Mn2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055	.0196	-.0019	185.2	-.6181	519.4	-.0381
StdDev	.0007	.0018	.0037	.2	.4259	.4	.0007
SRSD	12.33	9.395	193.9	.1057	68.91	.0815	1.873
#1	.0050	.0183	-.0045	185.1	-.3169	519.1	-.0175
#2	.0060	.0209	.0007	185.4	-.9193	519.7	-.0336
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value				200.0		500.0	
Range				20.00		20.00	

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2974
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3568	-.0090	.0628	-.0471	.1548	.1033	-.0091
Std	.0084	.0075	.0278	.0598	.0657	.0897	.0015
RMSD	2.358	83.54	44.31	126.9	42.43	86.89	19.04
1	.3508	-.0144	.0825	-.0895	.1084	.1667	-.0091
2	.3627	-.0037	.0431	-.0048	.2013	.0398	-.0070
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem Zn2138
Units ppm
Avg -0.0241
SDev .0022
%RSD 9.047

#1 -.0226
#2 -.0257

Errors NOCHECK
Value
Range

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	32218	--	--	--	--	--	--
SDev	147.7853	--	--	--	--	--	--
%RSD	.4506971	--	--	--	--	--	--
#1	32323	--	--	--	--	--	--
#2	32114	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSABF
Run Time: 06/14/94 15:53:35
Comment:
Mode: CONC Corr. Factor: 1

Operator: DQ

Elem	As3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Ca122104
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9630	502.7	3.720	.5264	.4738	.472.7	.9444
SDev	.0005	.1	.032	.0027	.0008	.5	.0034
%RSD	.0504	.0223	.8527	.5152	.1752	.1088	.3630
#1	.9634	502.8	3.697	.5283	.4733	.473.1	.9424
#2	.9627	502.6	3.742	.5245	.4744	.472.3	.9472
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	500.0		.5000	.5000	500.0	1.000
Range	20.00	20.00		20.00	20.00	20.00	20.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4564	.4952	.4865	183.0	-.6564	513.8	.4261
SDev	.0016	.0050	.0019	.1	.4565	.14	.0005
%RSD	.3600	1.000	.3823	.0396	69.55	.2780	.1263
#1	.4552	.4917	.4851	183.0	-.3336	514.8	.4257
#2	.4575	.4987	.4878	182.9	-.9792	512.8	.4265
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.5000	.5000	.5000	200.0		500.0	.5000
Range	20.00	20.00	20.00	20.00		20.00	20.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.3582	.9533	.9873	-.0058	-.0290	.2372	.4703
SDev	.0006	.0224	.0332	.0259	.1029	.0882	.0016
%RSD	.1614	2.354	3.363	444.6	354.8	37.19	.3356
#1	.3578	.9374	.9639	.0125	.0438	.2996	.4691
#2	.3586	.9691	1.011	-.0241	-.1018	.1748	.4714
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		1.000	1.000				.5000
Range		20.00	20.00				20.00

Elem	Zn2138
Units	ppm
Ave	.9092
SDev	.0017
%RSD	.1867

#1	.9104
#2	.9080
Errors	QC Pass
Value	1.000
Range	20.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	32743	--	--	--	--	--	--
SDev	206.4752	--	--	--	--	--	--
%RSD	.6305934	--	--	--	--	--	--
#1	32889	--	--	--	--	--	--
#2	32597	--	--	--	--	--	--

Method: ENVIR094 Sample Name: CCV4
Run Time: 06/14/94 15:58:25
Comment:
Mode: CONC Corr. Factor: 1 Operator: DQ

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2238
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	1.845	9.680	10.30	10.06	10.07	9.746	9.777
SDev	.003	.019	.06	.00	.00	.036	.062
%RSD	.1774	.1982	.5971	.0284	.0054	.3678	.6366
#1	1.843	9.666	10.26	10.07	10.07	9.721	9.678
#2	1.847	9.693	10.34	10.06	10.07	9.771	9.766
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2776

Units ppm
 Ave 9.602 9.974 10.23 ppm
 SDev .003 .007 .009 ppm
 %RSD .0279 .0742 .0123 ppm
 #1 9.600 9.968 10.23 9.713 47.29 9.723 9.761
 #2 9.603 9.979 10.23 9.726 47.45 9.697 9.780

Errors QC Pass
 Value 10.00 10.00 10.00 QC Pass
 Range 10.00 10.00 10.00 QC Pass

Elem Na5889 Ni2316 Pb2203 Sb2068 Se1960 Tl1908 V.2924
 Units ppm ppm ppm ppm ppm ppm
 Ave 9.471 10.00 9.609 9.808 10.25 9.776
 SDev .016 .02 .027 .032 .13 .04
 %RSD .1705 .2432 .2830 .3255 1.262 .3574 .1586

#1 9.483 9.983 9.628 9.786 10.16 10.09 9.787
 #2 9.460 10.02 9.590 9.831 10.34 10.04 9.765

Errors QC Pass
 Value 10.00 10.00 10.00 10.00 10.00 10.00 10.00
 Range 10.00 10.00 10.00 10.00 10.00 10.00 10.00

Elem Zn2138

Units ppm
 Ave 10.64
 SDev .03
 %RSD .2655

#1 10.62
 #2 10.66

Errors QC Pass
 Value 10.00
 Range 10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Ave	32481	--	--	--	--	--	--
SDev	387.4945	--	--	--	--	--	--
%RSD	1.192988	--	--	--	--	--	--

#1 32755
 #2 32207

Method: ENVIRO94 Sample Name: CCB4 Operator: DQ
 Run Time: 06/14/94 16:02:20
 Comment:
 Mode: CONC Corr. Factor: 1

Elem Ag3280 Al3082 As1936 Ba4934 Bi4130 Ca3119 Cd3234

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.0024	.0450	-.0175	-.0003	.0011	-.0150	.0025	
SDev	.0066	.0007	.0405	.0004	.0000	.0028	.0001	
%RSD	268.4	1.553	230.8	141.4	2.463	18.84	3.992	
#1	-.0022	.0455	-.0462	-.0006	.0011	-.0169	.0024	
#2	H.0071	.0446	.0111	.0000	.0012	-.0140	.0026	
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080	
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	.0080	
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Mn2516	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Ave	.0004	.0014	.0019	.0008	-.2825	.0246	.0008	
SDev	.0012	.0034	.0002	.0012	.5074	.0194	.0006	
%RSD	274.4	255.3	10.82	157.6	179.6	78.90	75.34	
#1	.0013	-.0011	.0018	-.0001	-.6413	.0109	.0004	
#2	-.0004	.0038	.0021	.0016	.0763	.0384	.0012	
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020	
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020	
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Ave	.0572	.0070	.0244	-.0064	.0239	-.0535	-.0009	
SDev	.0063	.0060	.0337	.0383	.0047	.0759	.0000	
%RSD	11.12	85.50	138.0	602.6	19.65	142.0	.0110	
#1	.0527	.0028	.0482	.0207	.0205	.0002	-.0009	
#2	.0617	.0112	.0006	-.0334	.0272	-.1072	-.0009	
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100	
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100	
Elem	Zn2138							
Units	ppm							
Ave	.0039							
SDev	.0006							
%RSD	14.41							
#1	.0035							
#2	.0043							
Errors	LC Pass							
High	.0100							
Low	-.0100							
IntStd	1	2	3	4	5	6	7	
*Counts		NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	
Mode Y	--	--	--	--	--	--	--	
Elem	371.030							
Wavlen								
Avgc	32996							

SDev	458.9123	--	--	--	--	--	--
%RSD	1.390833	--	--	--	--	--	--
#1	33320	--	--	--	--	--	--
#2	32671	--	--	--	--	--	--

PROGRAMMING MODE INSTRUMENT

USER METH # 34 - PB DATE: 34/05/15

ELEMENT: PB WAVELENGTH (NM): 283.3 SLIT (UM): 0.7
 PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - Method: Mod.
 PRETREAT TEMP: 850 ATOMIZE TEMP: 1800 CHARACTER: MASS (100) 12.0

1. TECHNIQUE: ZEEMAN
3. SIGNAL PROCESSING: PEAK AREA
5. TIME (SECONDS): 5.0
7. SCREEN FORMAT: 1.0 GRAPHICS
9. RECORDER SIGNAL: 0.2 CONT ABS
11. STATISTICS: 2 AVERAGE & CV
13. ROLLOVER(ABS): 1.500

2. LAMP CURRENT (MA): 10
4. CALIBRATION: AUTO SELECT
6. READ DELAY (SECONDS): 0.1
8. PRINTER: MAIN SUPPL
10. RECORDER EXP: 1000
12. NOMINAL WEIGHT 1.1
14. EG SCALE: 1.0

15. S1: 25.0 16. S2: 50.0 17. S3: 100.0
 18. S4: 19. S5: 20. S6:
 21. S7: 22. S8: 23. RS1: 50.0

0615A

TIME: 07:15

PB

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.015
 0.006
 ZAA
 0.014
 0.009
 F3
 0.004
 -0.003

READ: 0.009

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.047
 0.021
 ZAA
 0.039
 0.023
 B5
 0.009
 -0.001

READ: 0.023

MEAN= 0.016 STD.DEV.=
 ***** COEF.VAR.= 59.55 %
 0.000 AUTOZERO

PB

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.328
 0.179
 ZAA
 0.261
 0.147
 B5
 0.067
 0.032

READ: 0.131

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.319
 0.177
 ZAA
 0.259
 0.143
 F3
 0.065
 0.034

READ: 0.127

MEAN= 0.129 STD.DEV.=
 ***** COEF.VAR.= 2.43 %
 25.0 STANDARD

PB

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.532
 0.305
 ZAA
 0.414
 0.244
 B5
 0.117
 0.052

READ: 44.1

COEF,VAR, = 10.33 %

E-50: READING GREATER THAN HIGHEST STANDARD

50.0 STANDARD 2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 88.9

(CONTINUED)

[illegible]

2AA	0.0
0.665	0.116
0.410	0.116

READ: 87.6

MEAN= 88.2 STD. DEV.=

COEF. VAR. = 1.19 %

83.2

E-50: READING GREATER THAN HIGHEST STANDARD

100.0 STANDARD 3

* 5
* 0
* 0
* 0
* W
* U

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA	ZAA	BIG
0.519	0.406	0.115
0.239	0.237	0.061

READ: 44.4

[illegible]

AA	ZAA	E05
0.602	0.469	0.124
0.358	0.270	0.092

READ: 53.5

MEAN= 48.8 STD.DEV. =

COEF, VAR, = 15.50 %

* ы
 * о
 * о
 * о
 * ы
 * ы

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

2AA	2AA	B3
0.022	0.020	0.004
0.009	0.014	0.005

REAL: -0.4

DATE: 10/11/1964

MEAN= -0.5 STD.DEV.= COEF.VAR.= 27.83 %

 PB 0007
 PEAK HEIGHT (ABSORBANCE) AA 0.019 ZAA 0.015 RG 0.006
 PEAK AREA (ABS-SECONDS) 0.012 0.010 1.002
 READ: -1.1

PEAK HEIGHT (ABSORBANCE) AA 0.017 ZAA 0.014 RG 0.004
 PEAK AREA (ABS-SECONDS) 0.010 0.009 0.001
 READ: -1.2
 MEAN= -1.2 STD.DEV.= COEF.VAR.= 5.80 %

 PB 0008

PEAK HEIGHT (ABSORBANCE) AA 0.424 ZAA 0.336 RG 0.088
 PEAK AREA (ABS-SECONDS) 0.244 0.200 0.115
 READ: 36.3
 PEAK HEIGHT (ABSORBANCE) AA 0.426 ZAA 0.337 RG 0.089
 PEAK AREA (ABS-SECONDS) 0.241 0.195 0.049
 READ: 35.2

MEAN= 35.7 STD.DEV.= COEF.VAR.= 7.27 %

 PB 0009
 PEAK HEIGHT (ABSORBANCE) AA 0.036 ZAA 0.031 RG 0.006
 PEAK AREA (ABS-SECONDS) 0.022 0.017 0.005
 READ: 0.3

PEAK HEIGHT (ABSORBANCE) AA 0.038 ZAA 0.032 RG 0.009
 PEAK AREA (ABS-SECONDS) 0.026 0.019 0.009
 READ: 0.6
 MEAN= 0.4 STD.DEV.= COEF.VAR.= 50.75 %

PB 0010
 PEAK HEIGHT (ABSORBANCE) AA 0.074 ZAA 0.062 RG 0.012
 PEAK AREA (ABS-SECONDS) 0.042 0.023 0.009

06484-5c

06488-4c

PEAK AREA (ABS-SECONDS) 0.043 0.012 0.010
READ: 3.2

MEAN= 3.2 STD.DEV.= COEF.VAR.= 1.40 %
PB 0011

PEAK HEIGHT (ABSORBANCE) AA 0.349 PG 0.069
PEAK AREA (ABS-SECONDS) ZAA 0.280 0.158

READ: 27.7

PEAK HEIGHT (ABSORBANCE) AA 0.345 PG 0.069
PEAK AREA (ABS-SECONDS) ZAA 0.277 0.157

READ: 27.4 -4c spk
MEAN= 27.6 STD.DEV.= COEF.VAR.= 0.75 %
PB 0012

PEAK HEIGHT (ABSORBANCE) AA 0.346 PG 0.069
PEAK AREA (ABS-SECONDS) ZAA 0.277 0.157

READ: 27.3

PEAK HEIGHT (ABSORBANCE) AA 0.342 PG 0.067
PEAK AREA (ABS-SECONDS) ZAA 0.276 0.154

READ: 26.7 -4c 18ug spk
MEAN= 27.0 STD.DEV.= COEF.VAR.= 1.60 %
PB 0013

PEAK HEIGHT (ABSORBANCE) AA 0.170 PG 0.047
PEAK AREA (ABS-SECONDS) ZAA 0.138 0.080

READ: 12.3

PEAK HEIGHT (ABSORBANCE) AA 0.166 PG 0.039
PEAK AREA (ABS-SECONDS) ZAA 0.136 0.077

READ: 11.5 06431-1c
MEAN= 11.9 STD.DEV.= COEF.VAR.= 4.39 %

PB 0014

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.181 0.147 0.035
0.122 0.087 0.049
READ: 12.8

MEAN= 13.0 STD.DEV.= COEF.VAR.= 1.49 %

PB 0015

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.864 0.655 0.216
0.623 0.405 0.110
READ: 93.6

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.900 0.676 0.227
0.536 0.419 0.117
READ: 100.1

MEAN= 36.7 STD.DEV.= COEF.VAR.= 8.25 %

PB 0016

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.216 0.171 0.045
0.161 0.111 0.051
READ: 18.2

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.210 0.167 0.043
0.153 0.104 0.049
READ: 16.9

MEAN= 17.5 STD.DEV.= COEF.VAR.= 5.30 %

PB 0017

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.147 0.116 0.032
0.118 0.078 0.040
READ: 11.8

PEAK HEIGHT (ABSORBANCE) AA ZAA B5
PEAK AREA (ABS-SECONDS) 0.147 0.117 0.030
0.103 0.075 0.027
READ: 11.4

MEAN= 11.6 STD.DEV.= COEF.VAR.= 2.54 %


```

PEAK AREA (ABS-SECONDS)
READ: -0.5
0.021 0.013 0.007
0.000 0.000 0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
0.026 0.021 0.005
0.015 0.013 0.002

READ: -0.5
-6c
MEAN= -0.5 STD.DEV.= COEF.VAR.= 0.18 %
PB 0 0 1 9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
1.922 1.278 0.587
1.531 1.008 0.521

READ: 148.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
2.005 1.305 0.700
1.506 1.046 0.560

READ: 155.6
-7c
MEAN= 152.0 STD.DEV.= COEF.VAR.= 2.71 %

```

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

```

PB 0 0 2 0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
0.131 0.106 0.026
0.079 0.057 0.013

READ: 7.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
0.122 0.097 0.020
0.066 0.050 0.015

READ: 0.5
06427-1E
MEAN= 7.1 STD.DEV.= COEF.VAR.= 11.62 %
PB 0 0 2 1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
0.585 0.458 0.128
0.324 0.257 0.067

READ: 49.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA ZAA BS
0.566 0.444 0.122
0.319 0.254 0.065

READ: 48.4
ccy1
MEAN= 48.7 STD.DEV.=

```

PEAK AREA (ABS-SECONDS) 0.010 0.997

READ: -1.7

PEAK HEIGHT (ABSORBANCE) AA 0.009 ZAA 0.007 PS 0.002
PEAK AREA (ABS-SECONDS) 0.004 0.006 -0.001

READ: -1.9

MEAN= -1.8 STD.DEV.= COEF.VAR.= 8.48 %

PB 0023

PEAK HEIGHT (ABSORBANCE) AA 0.008 ZAA 0.007 PS 0.002
PEAK AREA (ABS-SECONDS) 0.009 0.007 0.002

READ: -1.7

PEAK HEIGHT (ABSORBANCE) AA 0.009 ZAA 0.007 PS 0.002
PEAK AREA (ABS-SECONDS) 0.009 0.007 0.002

READ: -1.8

MEAN= -1.7 STD.DEV.= COEF.VAR.= 4.43 %

PB 0024

PEAK HEIGHT (ABSORBANCE) AA 0.436 ZAA 0.345 PS 0.092
PEAK AREA (ABS-SECONDS) 0.248 0.196 0.091

READ: 35.6

PEAK HEIGHT (ABSORBANCE) AA 0.437 ZAA 0.345 PS 0.092
PEAK AREA (ABS-SECONDS) 0.248 0.196 0.091

READ: 34.7

MEAN= 35.1 STD.DEV.= COEF.VAR.= 2.07 %

PB 0025

PEAK HEIGHT (ABSORBANCE) AA 0.033 ZAA 0.014 PS 0.002
PEAK AREA (ABS-SECONDS) 0.072 0.009 0.001

READ: -1.3

PEAK HEIGHT (ABSORBANCE) AA 0.031 ZAA 0.015 PS 0.002
PEAK AREA (ABS-SECONDS) 0.057 0.010 0.001

READ: -1.0

PB 0026

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.268
0.247
ZAA 0.216
0.160
P/S 0.054
0.087

READ: 28.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.270
0.245
ZAA 0.218
0.158
P/S 0.055
0.087

READ: 27.6

MEAN= 27.8 STD.DEV.=

COEF.VAR.= 1.39 %

PB 0027

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.265
0.251
ZAA 0.216
0.160
P/S 0.051
0.100

READ: 28.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.252
0.251
ZAA 0.210
0.153
P/S 0.053
0.092

READ: 27.8

MEAN= 27.9 STD.DEV.=

COEF.VAR.= 0.15 %

PB 0028

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.153
0.167
ZAA 0.008
0.005
P/S 0.147
0.161

READ: -1.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.128
0.151
ZAA 0.008
0.005
P/S 0.121
0.145

READ: -2.0

MEAN= -1.9 STD.DEV.=

COEF.VAR.= 2.99 %

PB 0029

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.095
0.111
ZAA 0.007
0.005
P/S 0.090
0.105

READ: -2.1

06382-1A 10x

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: -2.1
MEAN= -2.1 STD.DEV.=
PE 0030

COEF.VAR.= 2.59 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: -1.5
MEAN= -1.5 STD.DEV.=
PE 0031

COEF.VAR.= 4.10 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: -1.6
MEAN= -1.6 STD.DEV.=
PE 0032

COEF.VAR.= 15.54 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: -2.0
MEAN= -2.0 STD.DEV.=
PE 0033

COEF.VAR.= 1.93 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 80.8
MEAN= 80.8 STD.DEV.=
PE 0034

COEF.VAR.= 1.93 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 85.4
MEAN= 85.4 STD.DEV.=
PE 0035

COEF.VAR.= 1.93 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 85.7
MEAN= 85.7 STD.DEV.=
PE 0036

COEF.VAR.= 1.93 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.080
ZAA 0.007
E5 0.075

AA 0.101
ZAA 0.004
E5 0.097

AA 0.056
ZAA 0.012
E5 0.044

AA 0.070
ZAA 0.008
E5 0.002

AA 0.053
ZAA 0.012
E5 0.042

AA 0.063
ZAA 0.007
E5 0.056

AA 0.010
ZAA 0.009
E5 0.004

AA 0.010
ZAA 0.008
E5 0.002

AA 0.009
ZAA 0.005
E5 0.001

AA 0.819
ZAA 0.1630
E5 0.169

AA 0.504
ZAA 0.1397
E5 0.198

AA 0.822
ZAA 0.1628
E5 0.198

AA 0.506
ZAA 0.1443
E5 0.198

AA 0.819
ZAA 0.1630
E5 0.169

AA 0.504
ZAA 0.1397
E5 0.198

AA 0.822
ZAA 0.1628
E5 0.198

AA 0.506
ZAA 0.1443
E5 0.198

AA 0.819
ZAA 0.1630
E5 0.169

AA 0.504
ZAA 0.1397
E5 0.198

10x

10x

26/13

(89.1)(20)(100) = 178.2

2138.0

85.7%

20x

PS

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.328
0.482

READ: 109.7

MEAN= 104.8 STD.DEV.=

COEF. VAR. = 0.65 %

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PB 0034

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.894
0.546

READ: 100.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.904
0.545

READ: 99.4

MEAN= 99.5 STD.DEV.=

COEF. VAR. = 0.90 %

PB 0035

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

1.651
1.605

READ: 147.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

1.662
1.535

READ: 140.2

MEAN= 144.1 STD.DEV.=

COEF. VAR. = 2.87 %

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PB 0036

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.916
0.535

READ: 118.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.852
0.514

READ: 97.2

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.890 0.676 0.215
0.538 0.409 0.129

READ: 95.2

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.875 0.663 0.212
0.534 0.402 0.107

READ: 92.1

MEAN= 93.6 STD.DEV.= COEF.VAR.= 3.95 %

PE 0037

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 1.318 0.948 0.375
0.873 0.649 0.204

READ: 53.0

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 1.295 0.933 0.367
0.350 0.640 0.215

READ: 47.8

MEAN= 50.5 STD.DEV.= COEF.VAR.= 2.61 %

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PE 0038

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.607 0.476 0.133
0.324 0.260 0.064

READ: 49.7

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.592 0.462 0.126
0.320 0.253 0.067

READ: 48.0

MEAN= 48.9 STD.DEV.= COEF.VAR.= 2.93 %

PE 0039

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.614 0.479 0.137
0.332 0.254 0.068

READ: 50.6

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.608 0.474 0.134
0.326 0.251 0.067

READ: 49.8

PEB 0040

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.011
0.008

ZAA
0.009
0.008

B₀
0.004
-0.001

READ: -1.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.012
0.016

ZAA
0.008
0.008

B₀
0.005
0.003

READ: -1.6

MEAN= -1.5 STD.DEV.=

COEF. VAR. = 5.97 %

PEB 0041

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.836
0.599

ZAA
0.643
0.378

B₀
0.194
0.001

READ: 82.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.795
0.613

ZAA
0.515
0.383

B₀
0.182
0.231

READ: 84.3

MEAN= 83.5 STD.DEV.=

COEF. VAR. = 2.29 %

PEB 0042

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.947
0.818

ZAA
0.714
0.576

B₀
0.244
0.241

READ: -46.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.325
0.781

ZAA
0.690
0.552

B₀
0.230
0.220

READ: -305.7

MEAN= -113.0 STD.DEV.=

COEF. VAR. = 93.99 %

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PEB 0043

PEAK HEIGHT (ABSORBAICE)
PEAK AREA (ABS-SECONDS)

AA
0.768
0.630

ZAA
0.588
0.431

B₀
0.181
0.215

READ: 106.6

MEAN= 109.1 STD.DEV.= COEF.VAR.= 3.72 %

108.1

E-50: READING GREATER THAN HIGHEST STANDARD

PB 0044
PEAK HEIGHT (ABSORBANCE) AA 0.834 ZAA 0.634 RG 0.200
PEAK AREA (ABS-SECONDS) 0.675 0.490 0.170
READ: 187.1

PEAK HEIGHT (ABSORBANCE) AA 0.836 ZAA 0.637 RG 0.201
PEAK AREA (ABS-SECONDS) 0.674 0.495 0.174

100

READ: 183.4
MEAN= 185.2 STD.DEV.= COEF.VAR.= 2.84 %

185.2

E-50: READING GREATER THAN HIGHEST STANDARD

PB 0045
PEAK HEIGHT (ABSORBANCE) AA 1.492 ZAA 1.057 RG 0.430
PEAK AREA (ABS-SECONDS) 1.115 0.685 0.431
READ: 70.2

PEAK HEIGHT (ABSORBANCE) AA 1.417 ZAA 1.006 RG 0.413
PEAK AREA (ABS-SECONDS) 1.153 0.715 0.438
READ: 81.2

MEAN= 76.0 STD.DEV.= COEF.VAR.= 6.35 %

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PB 0045
PEAK HEIGHT (ABSORBANCE) AA 0.578 ZAA 0.451 RG 0.127
PEAK AREA (ABS-SECONDS) 0.475 0.291 0.195
READ: 57.0

PEAK HEIGHT (ABSORBANCE) AA 0.581 ZAA 0.453 RG 0.129
PEAK AREA (ABS-SECONDS) 0.457 0.236 0.171

120

READ: 55.9
MEAN= 56.5 STD.DEV.= COEF.VAR.= 1.7 %

PB 0017

PEAK HEIGHT (ABSORBANCE) AA 1.713 ZAA 0.453 RG 0.129

PEAK HEIGHT (ABSORBANCE) AA 0.848 ZAA 0.648 PG 0.202
PEAK AREA (ABS-SECONDS) 0.642 0.423 0.219

READ: 102.1

MEAN= 101.0 STD.DEV.=

COEF.VAR.= 2.73 %

PB 0048

PEAK HEIGHT (ABSORBANCE) AA 0.869 ZAA 0.659 PG 0.213
PEAK AREA (ABS-SECONDS) 0.575 0.501 0.174

READ: 202.8

PB 0049

PEAK HEIGHT (ABSORBANCE) AA 0.984 ZAA 0.736 PG 0.247
PEAK AREA (ABS-SECONDS) 0.324 0.416 0.238

READ: 103.9

PB 0050

PEAK HEIGHT (ABSORBANCE) AA 0.534 ZAA 0.419 PG 0.115
PEAK AREA (ABS-SECONDS) 0.345 0.188 0.159

READ: 33.7

PEAK HEIGHT (ABSORBANCE) AA 0.516 ZAA 0.406 PG 0.110
PEAK AREA (ABS-SECONDS) 0.338 0.194 0.135

READ: 32.9

MEAN= 33.3 STD.DEV.=

COEF.VAR.= 1.94 %

PB 0051

PEAK HEIGHT (ABSORBANCE) AA 0.619 ZAA 0.478 PG 0.141
PEAK AREA (ABS-SECONDS) 0.368 0.259 0.091

READ: 56.3

PEAK HEIGHT (ABSORBANCE) AA 0.550 ZAA 0.426 PG 0.124
PEAK AREA (ABS-SECONDS) 0.304 0.235 0.069

READ: 44.0

MEAN= 50.0 STD.DEV.=

COEF.VAR.= 20.81 %

PB 0051

PEAK HEIGHT (ABSORBANCE) AA 0.516 ZAA 0.429 PG 0.136
PEAK AREA (ABS-SECONDS) 0.326 0.224 0.074

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.510
0.338

AA
0.474
0.264

AA
0.510
0.338

READ: 50.7
MEAN= 50.9 STD.DEV.=
PB 0052

COEF.VAR.= 0.51 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.625
0.305

AA
0.485
0.237

AA
0.140
0.068

READ: 44.3

PB 0052

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.008
0.008

AA
0.008
0.008

AA
0.002
0.001

READ: -1.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.008
0.007

AA
0.006
0.005

AA
0.002
0.002

READ: -2.0

MEAN= -1.8 STD.DEV.=

COEF.VAR.= 20.04 %

PB 0053

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.714
0.725

AA
0.550
0.157

AA
0.154
0.071

READ: 125.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.734
0.709

AA
0.570
0.456

AA
0.165
0.752

READ: 125.1

MEAN= 125.2 STD.DEV.=

COEF.VAR.= 0.29 %

PB 0054

E-50: READING GREATER THAN HIGHEST STANDARD

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.610
0.526

AA
0.487
0.311

AA
0.124
0.216

READ: 62.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.551
0.517

AA
0.436
0.304

AA
0.119
0.071

READ: 60.5

U U U

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.477
0.402
ZAA
0.376
0.201
P₁
0.101
0.201

READ: 36.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.491
0.388
ZAA
0.383
0.209
P₁
0.101
0.178

READ: 38.3

MEAN= 37.4 STD.DEV.=
***** COEF.VAR.= 3.43 %

FB 0056

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.415
0.318
ZAA
0.342
0.210
P₁
0.101
0.101

READ: 38.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.416
0.329
ZAA
0.336
0.233
L₁
0.082
0.130

READ: 43.6

MEAN= 41.0 STD.DEV.=
***** COEF.VAR.= 10.06 %

FB 0057

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.008
0.009
ZAA
0.006
0.004
P₃
0.007
0.005

READ: -2.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.008
0.016
ZAA
0.006
0.004
P₃
0.007
0.011

READ: -2.2

MEAN= -2.2 STD.DEV.=
***** COEF.VAR.= 2.84 %

FB 0058

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.002
0.478
ZAA
0.250
0.353
P₃
0.250
0.110

READ: 77.4

PEAK HEIGHT (ABSORBANCE)

AA
1.005
ZAA
0.752
P₃
0.752

(26.9)(20)(20) 153.8
1980 208.0
73.9%

MEAN= 76.9 STD.DEV.=

COEF.VAR.= 1.57 %

PB 0059

PEAK HEIGHT (ABSORBANCE) AA 0.696 ZAA 0.546 B5 0.150
PEAK AREA (ABS-SECONDS) 0.460 0.339 0.121

READ: 70.1

PEAK HEIGHT (ABSORBANCE) AA 0.718 ZAA 0.562 B5 0.159
PEAK AREA (ABS-SECONDS) 0.454 0.339 0.126

READ: 59.8

MEAN= 70.0 STD.DEV.=

COEF.VAR.= 0.42 %

PB 0060

PEAK HEIGHT (ABSORBANCE) AA 0.754 ZAA 0.589 B5 0.163
PEAK AREA (ABS-SECONDS) 0.476 0.347 0.128

READ: 72.4

PEAK HEIGHT (ABSORBANCE) AA 0.730 ZAA 0.572 B5 0.151
PEAK AREA (ABS-SECONDS) 0.465 0.339 0.126

READ: 70.0

MEAN= 71.2 STD.DEV.=

COEF.VAR.= 3.33 %

PB 0061

PEAK HEIGHT (ABSORBANCE) AA 1.129 ZAA 0.840 B5 0.290
PEAK AREA (ABS-SECONDS) 0.517 0.374 0.141

READ: 81.0

PEAK HEIGHT (ABSORBANCE) AA 1.132 ZAA 0.848 B5 0.294
PEAK AREA (ABS-SECONDS) 0.506 0.370 0.135

06220-2D (Ac only)

READ: 73.9

MEAN= 80.5 STD.DEV.=

COEF.VAR.= 1.51 %

PB 0061

PEAK HEIGHT (ABSORBANCE) AA 0.510 ZAA 0.247 B5 0.064
PEAK AREA (ABS-SECONDS) 0.133 0.111 0.040

READ: 15.3

PEAK HEIGHT (ABSORBANCE) AA 0.310 ZAA 0.245 B5 0.064
PEAK AREA (ABS-SECONDS) 0.131 0.101 0.030

READ: 16.3

5X
-2D (Ac only)

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.725
0.321

ZAA
0.552
0.247

PS
0.165
0.074

READ: 46.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.725
0.320

ZAA
0.562
0.245

PS
0.164
0.075

READ: 46.1

MEAN= 46.4 STD.DEV.=

COEF.VAR.= 0.79 %

FB 0063

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.731
0.313

ZAA
0.567
0.249

PS
0.165
0.069

READ: 47.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.728
0.317

ZAA
0.564
0.246

PS
0.166
0.071

READ: 45.5

MEAN= 45.8 STD.DEV.=

COEF.VAR.= 1.13 %

FB 0064

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.464
0.259

ZAA
0.357
0.179

PS
0.097
0.029

READ: 32.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.429
0.274

ZAA
0.342
0.178

PS
0.097
0.028

READ: 31.7

MEAN= 31.9 STD.DEV.=

COEF.VAR.= 0.73 %

FB 0065

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.525
0.381

ZAA
0.416
0.247

PS
0.110
0.101

READ: 46.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.521
0.375

ZAA
0.413
0.244

PS
0.109
0.100

READ: 45.9

FB 0066

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.397
0.254
ZAA 0.313
0.175
BS 0.084
0.079

READ: 31.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.403
0.253
ZAA 0.310
0.175
BS 0.086
0.077

READ: 31.4

MEAN= 31.3 STD.DEV.=

COEF.VAR.= 0.51 %

FB 0067

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.175
0.114
ZAA 0.138
0.075
BS 0.037
0.039

READ: 11.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.174
0.111
ZAA 0.140
0.074
BS 0.035
0.037

READ: 11.1

MEAN= 11.2 STD.DEV.=

COEF.VAR.= 1.19 %

FB 0068

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.240
0.154
ZAA 0.190
0.105
BS 0.050
0.049

READ: 17.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.236
0.153
ZAA 0.196
0.105
BS 0.049
0.047

READ: 17.1

MEAN= 17.1 STD.DEV.=

COEF.VAR.= 0.07 %

FB 0069

PEAK HEIGHT (ABSORBANCE)

AA 0.271
ZAA 0.213
BS 0.054

PEAK AREA (ABS-SECONDS)

0.172

READ: 19.7

READ:	19.9								
MEAN=	19.8	STD.DEV.=		COEF. VAR.=	0.63	%			
PB	0070								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.582	0.455						
		0.340	0.271						
READ:	52.2								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.617	0.482						
		0.325	0.257						
READ:	49.0								
MEAN=	50.6	STD.DEV.=		COEF. VAR.=	5.34	%			
PB	0071								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.452	0.360						
		0.295	0.192						
READ:	32.6								
PB	0071								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.007	0.007						
		0.006	0.008						
READ:	-1.6								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.007	0.005						
		0.007	0.004						
READ:	-2.2								
MEAN=	-1.9	STD.DEV.=		COEF. VAR.=	23.62	%			
PB	0071 WFL								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.277	0.218						
		0.172	0.117						
READ:	19.5								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.277	0.218						
		0.176	0.121						
READ:	20.3								
MEAN=	19.9	STD.DEV.=		COEF. VAR.=	2.81	%			
PB	0073 WFL								
PEAK HEIGHT (ABSORBANCE)		AA	ZAA						
PEAK AREA (ABS-SECONDS)		0.265	0.212						
		0.137	0.108						

CCVf

CCBd

06119-14c 5x

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.226
0.181
0.193

ZAA
0.181
0.106

AA
0.226
0.181
0.193

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.226
0.181
0.193

ZAA
0.181
0.106

AA
0.226
0.181
0.193

READ: 17.2

MEAN= 17.4 STD.DEV.=

COEF.VAR.= 1.37 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.199
0.187

ZAA
0.159
0.114

AA
0.199
0.187

READ: 19.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.214
0.182

ZAA
0.170
0.117

AA
0.214
0.182

READ: 18.6

MEAN= 18.7 STD.DEV.=

COEF.VAR.= 0.43 %

READ: 18.6

MEAN= 18.7 STD.DEV.=

COEF.VAR.= 0.43 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.401
0.298

ZAA
0.320
0.171

AA
0.401
0.298

READ: 30.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.401
0.298

ZAA
0.322
0.174

AA
0.401
0.298

READ: 31.0

MEAN= 30.6 STD.DEV.=

COEF.VAR.= 1.31 %

READ: 31.0

MEAN= 30.6 STD.DEV.=

COEF.VAR.= 1.31 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.595
0.221

ZAA
0.454
0.253

AA
0.595
0.221

READ: 48.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.586
0.315

ZAA
0.458
0.249

AA
0.586
0.315

READ: 47.1

MEAN= 47.6 STD.DEV.=

COEF.VAR.= 1.89 %

READ: 47.1

MEAN= 47.6 STD.DEV.=

COEF.VAR.= 1.89 %

05

ZAA

AA

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.008
0.008

0.006
0.005

0.003
0.003

READ: -2.1

MEAN= -2.0 STD.DEV.=

COEF.VAR.= 4.97 %

CBS

PROGRAMMING MODE INSTRUMENT

USER METH # 31 - CP

DATE: 24/05/17

ELEMENT: CR WAVELENGTH (NM): 357.9 SLIT (NM): 0.7
 PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
 PRETREAT TEMP: 1650 ATOMIZE TEMP: 2500 CHARACTER, MASS (PG) 9.3

1. TECHNIQUE: ZEEMAN
3. SIGNAL PROCESSING: PEAK AREA
5. TIME (SECONDS): 5.0
7. SCREEN FORMAT: 1.0 GRAPHICS
9. RECORDER SIGNAL: 0.2 CONT ABS
11. STATISTICS: 2 AVERAGE & CV
13. ROLLOVER(ABS): 1.500

2. LAMP CURRENT (MA): 20
4. CALIBRATION: AUTO SELECT
6. READ DELAY (SECONDS): 9.0
8. PRINTER: MAIN SUPPL
10. RECORDER EXP: 1000
12. NOMINAL WEIGHT 1.0
14. EC SCALE: 1.0

15. S1: 10.0 16. S2: 20.0 17. S3: 40.0
 18. S4: 19. S5: 20. S6:
 21. S7: 22. S8: 23. S9: 30.0

CP

TIME: 07:15

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.029
 0.024

ZAA
 0.024
 0.014

EC
 0.005
 0.010

READ: 0.014

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.030
 0.018

ZAA
 0.027
 0.013

EC
 0.005
 0.006

READ: 0.013

MEAN= 0.013 STD.DEV.=
 ***** COEF.VAR.= 7.26 %
 0.000 AUTOZERO

CP

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.134
 0.185

ZAA
 0.129
 0.176

EC
 0.009
 0.003

READ: 0.163

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.138
 0.191

ZAA
 0.132
 0.181

EC
 0.008
 0.011

READ: 0.160

MEAN= 0.165 STD.DEV.=
 ***** COEF.VAR.= 2.07 %
 10.0 STANDARD

CP

PEAK HEIGHT (ABSORBANCE)
 PEAK AREA (ABS-SECONDS)

AA
 0.256
 0.341

ZAA
 0.246
 0.341

EC
 0.012
 0.017

Opf
22/5/17

0677A

SI

PEAK HEIGHT (ABSORBANCE) 0.259 0.248 0.011
PEAK AREA (ABS-SECONDS) 0.367 0.348 0.010
READ: 20.3

MEAN= 20.1 STD. DEV. = 1.50 %

20.1

E-50: READING GREATER THAN HIGHEST STANDARD

20.0 STANDARD 2

CR

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.483 0.465 0.010
ZAA 0.630 0.650 0.008
EG

PEAD: 38.3

(CONTINUED)

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.481 0.461 0.020
ZAA 0.633 0.662 0.021
EG

PEAD: 38.9

MEAN= 38.6 STD. DEV. =

COEF. VAR. = 1.07 %

38.6

E-50: READING GREATER THAN HIGHEST STANDARD

40.0 STANDARD 3

CR 0005

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.266 0.254 0.012
ZAA 0.375 0.360 0.015
EG

PEAD: 21.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.259 0.249 0.011
ZAA 0.361 0.350 0.011
EG

PEAD: 20.4

MEAN= 20.7 STD. DEV. =

COEF. VAR. = 2.18 %

CR 0006

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.034 0.031 0.002
ZAA 0.035 0.031 0.002
EG

PEAD: 1.1

READ: 0.2

MEAN= 0.6

STD. DEV. =

COEF. VAR. = 99.99 %

CP 0007

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

PEAD: 0.0

AA

0.026

0.021

ZAA

0.024

0.014

EG

0.006

0.008

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 0.1

MEAN= 0.1

STD. DEV. =

COEF. VAR. = 78.96 %

CP 0008

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

PEAD: 23.5

AA

0.306

0.429

ZAA

0.293

0.400

EG

0.014

0.029

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

PEAD: 23.5

MEAN= 23.5

STD. DEV. =

COEF. VAR. = 0.13 %

CP 0009

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

PEAD: 0.8

AA

0.036

0.029

ZAA

0.035

0.027

EG

0.005

0.002

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

READ: 0.2

MEAN= 0.5

STD. DEV. =

COEF. VAR. = 97.85 %

CP 0010

PEAK HEIGHT (ABSORBANCE)

PEAK AREA (ABS-SECONDS)

PEAD: -0.1

AA

0.026

0.017

ZAA

0.022

0.012

EG

0.004

0.005

TCP

6/13

PBS

06382-1A

2A

10X

MEAN= -0.1 STD.DEV.= COEF.VAR.= 22.16 %

CPR 0011

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.029 0.076 0.004
0.014 0.014 -0.001

READ: 0.1

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.024 0.024 0.005
0.022 0.014 0.000

READ: 0.0

MEAN= 0.1 STD.DEV.= COEF.VAR.= 16.46 %

-3A 10X

CPR 0012

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.024 0.021 0.004
0.023 0.014 0.000

READ: 0.1

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.020 0.020 0.004
0.005 0.013 0.000

READ: 0.0

MEAN= 0.0 STD.DEV.= COEF.VAR.= 99.99 %

CPR 0013

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.301 0.290 0.012
0.407 0.391 0.015

READ: 23.0

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.239 0.231 0.010
0.333 0.325 0.000

READ: 19.9

MEAN= 20.9 STD.DEV.= COEF.VAR.= 14.36 %

CPR 0014

PEAK HEIGHT (ABSORBANCE) AA ZAA EG
PEAK AREA (ABS-SECONDS) 0.072 0.069 0.004
0.085 0.083 0.002

PEAK AREA (ABS-SECONDS) 0.004 0.079 0.005 0.007
READ: 3.5
MEAN= 3.8 STD.DEV.= 12.39 %
CP 0015
COEF.VAR.= 12.39 %

PEAK HEIGHT (ABSORBANCE) AA 0.046 ZAA 0.045 EG 0.007
PEAK AREA (ABS-SECONDS) AA 0.055 ZAA 0.047 EG 0.008

PEAD: 2.0
PEAK HEIGHT (ABSORBANCE) AA 0.046 ZAA 0.045 EG 0.007
PEAK AREA (ABS-SECONDS) AA 0.053 ZAA 0.046 EG 0.007

PEAD: 1.9
MEAN= 2.0 STD.DEV.= 1.37 %
COEF.VAR.= 1.37 %

CP 0015

PEAK HEIGHT (ABSORBANCE) AA 0.031 ZAA 0.027 EG 0.006
PEAK AREA (ABS-SECONDS) AA 0.031 ZAA 0.027 EG 0.007

PEAD: 0.8

PEAK HEIGHT (ABSORBANCE) AA 0.028 ZAA 0.023 EG 0.004
PEAK AREA (ABS-SECONDS) AA 0.025 ZAA 0.023 EG 0.005

PEAD: 0.6
MEAN= 0.7 STD.DEV.= 16.24 %
CP 0017
COEF.VAR.= 16.24 %

PEAK HEIGHT (ABSORBANCE) AA 0.236 ZAA 0.229 EG 0.011
PEAK AREA (ABS-SECONDS) AA 0.337 ZAA 0.319 EG 0.019

PEAD: 18.5

PEAK HEIGHT (ABSORBANCE) AA 0.246 ZAA 0.237 EG 0.015
PEAK AREA (ABS-SECONDS) AA 0.345 ZAA 0.327 EG 0.018

PEAD: 19.0

MEAN= 18.7 STD.DEV.= 2.09 %
CP 0018
COEF.VAR.= 2.09 %

PEAK HEIGHT (ABSORBANCE) AA 0.250 ZAA 0.237 JC 0.013
PEAK AREA (ABS-SECONDS) 0.350 0.331 0.019

READ: 19.2

MEAN= 19.1 STD. DEV. =

CP 0019

COEF. VAR. = 0.73 %

PEAK HEIGHT (ABSORBANCE) AA 0.020 ZAA 0.026 JC 0.003
PEAK AREA (ABS-SECONDS) 0.025 0.022 0.004

READ: 0.5

PEAK HEIGHT (ABSORBANCE) AA 0.019 ZAA 0.019 JC 0.007
PEAK AREA (ABS-SECONDS) 0.023 0.015 0.008

READ: 0.1

MEAN= 0.3 STD. DEV. =

CP 0020

COEF. VAR. = 99.63 %

PEAK HEIGHT (ABSORBANCE) AA 0.233 ZAA 0.276 JC 0.010
PEAK AREA (ABS-SECONDS) 0.336 0.220 0.016

READ: 18.5

PEAK HEIGHT (ABSORBANCE) AA 0.233 ZAA 0.276 JC 0.010
PEAK AREA (ABS-SECONDS) 0.336 0.220 0.016

READ: 18.4

MEAN= 18.5 STD. DEV. =

CP 0021

COEF. VAR. = 0.72 %

PEAK HEIGHT (ABSORBANCE) AA 0.501 ZAA 0.714 JC 0.009
PEAK AREA (ABS-SECONDS) 0.501 0.743 0.242

READ: 45.7

CP 0022

PEAK HEIGHT (ABSORBANCE) AA 0.948 ZAA 0.890 JC 0.049
PEAK AREA (ABS-SECONDS) 1.368 0.802 0.066

READ: 84.4

CP 0023

PEAK HEIGHT (ABSORBANCE) AA 0.212 ZAA 0.204 JC 0.011
PEAK AREA (ABS-SECONDS) 0.334 0.222 0.016

READ: 18.7

$$(18.5)(100)(100)$$

$$\frac{1850}{18700} = 98.9\%$$

See dilution
06119-1c

See dilution
-2c

revenue

-16

CR 0030

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 93.5

CR 0031

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 95.5

CR 0032

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 152.3

CR 0033

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 70.3

CR 0034

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 73.8

CR 0035

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 18.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 18.5

MEAN= 18.5 STD. DEV. =

CR 0036

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 0.4

AA 97.97
ZAA 9.918
1.426

See subtraction
-8c

AA 97.97
ZAA 9.918
1.426

See subtraction
-9c

AA 97.97
ZAA 9.918
1.426

See subtraction
-10c

AA 97.97
ZAA 9.918
1.426

See subtraction
-11c

AA 97.97
ZAA 9.918
1.426

See subtraction
-12c

AA 97.97
ZAA 9.918
1.426

CCM

COEF. VAR. = 0.08 7

AA 97.97
ZAA 9.918
1.426

ZAA

MEAN= 0.1 STD.DEV.= COEF.VAR.= 99.99 %

CR 0037

PEAK HEIGHT (ABSORBANCE) AA 0.502 ZAA 0.580
PEAK AREA (ABS-SECONDS) 0.941 0.886

READ: 55.2
CR 0038

PEAK HEIGHT (ABSORBANCE) AA 1.200 ZAA 1.135
PEAK AREA (ABS-SECONDS) 1.200 1.935

READ: 182.9
CR 0039

PEAK HEIGHT (ABSORBANCE) AA 0.163 ZAA 0.152
PEAK AREA (ABS-SECONDS) 0.264 0.244

READ: 13.9

PEAK HEIGHT (ABSORBANCE) AA 0.152 ZAA 0.143
PEAK AREA (ABS-SECONDS) 0.250 0.236

READ: 13.4
MEAN= 13.6 STD.DEV.= COEF.VAR.= 0.24 %

CR 0040

PEAK HEIGHT (ABSORBANCE) AA 0.352 ZAA 0.339
PEAK AREA (ABS-SECONDS) 0.558 0.542

READ: 32.5

PEAK HEIGHT (ABSORBANCE) AA 0.361 ZAA 0.347
PEAK AREA (ABS-SECONDS) 0.575 0.552

READ: 33.2
MEAN= 32.8 STD.DEV.= COEF.VAR.= 1.40 %

CR 0041

PEAK HEIGHT (ABSORBANCE) AA 0.357 ZAA 0.345
PEAK AREA (ABS-SECONDS) 0.574 0.537

READ: 33.2

PEAK HEIGHT (ABSORBANCE) AA 0.352 ZAA 0.344
PEAK AREA (ABS-SECONDS) 0.581 0.552

READ: 33.2

06220-25 (Ac only)

-25 spk

-25 dup spk

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
READ: 18.4

AA
ZAA

EG
0.009
0.016

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.009
0.014

READ: 18.2

PBS sf 2

MEAN= 18.3 STD.DEV.=

COEF.VAP.= 1.02

CP 0043

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
-0.002
-0.057

READ: 9.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.000
-0.057

READ: 3.7

06119-1c

MEAN= 3.0 STD.DEV.=

COEF.VAP.= 4.52

CP 0044

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.019
0.017

READ: 16.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.020
0.017

READ: 16.7

-2c

MEAN= 16.6 STD.DEV.=

COEF.VAP.= 0.92

CP 0045

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.001
0.002

READ: 5.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
ZAA

EG
0.006
0.013

READ: 5.0

MEAN= 5.2 STD.DEV.=

COEF.VAP.=

CP

50x

-3c

CR 0046

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.067 0.112
ZAA 0.063 0.100
EG 0.008 0.017

READ: 5.2

AA 0.065 0.108
ZAA 0.063 0.100
EG 0.006 0.008

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

READ: 5.2

MEAN= 5.2 STD.DEV.= 0.000
COEF.VAR.= 0.000

CR 0047

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.112 0.177
ZAA 0.110 0.175
EG 0.006 0.006

READ: 9.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.115 0.181
ZAA 0.113 0.177
EG 0.006 0.004

READ: 9.8

MEAN= 9.7 STD.DEV.= 0.81
COEF.VAR.= 0.81

CR 0048

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.181 0.292
ZAA 0.174 0.299
EG 0.014 0.011

READ: 10.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.182 0.296
ZAA 0.174 0.299
EG 0.019 0.013

READ: 16.3

MEAN= 16.8 STD.DEV.= 1.20
COEF.VAR.= 1.20

CR 0049

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.202 0.323
ZAA 0.193 0.310
EG 0.014 0.013

READ: 17.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.195 0.317
ZAA 0.188 0.310
EG 0.015 0.006

READ: 18.0

PEAK HEIGHT (ABSORBANCE) AA 0.205 EC 0.015
PEAK AREA (ABS-SECONDS) 0.332 0.011

READ: 18.6

PEAK HEIGHT (ABSORBANCE) ZAA 0.200 EC 0.015
PEAK AREA (ABS-SECONDS) 0.332 0.012

READ: 18.7

MEAN= 18.6 STD.DEV.= COEF.VAR.= 0.10 %

CP 0051

PEAK HEIGHT (ABSORBANCE) AA 0.212 EC 0.015
PEAK AREA (ABS-SECONDS) 0.338 0.012

READ: 18.9

PEAK HEIGHT (ABSORBANCE) ZAA 0.216 EC 0.012
PEAK AREA (ABS-SECONDS) 0.352 0.012

READ: 20.5

MEAN= 19.7 STD.DEV.= COEF.VAR.= 5.88 %

CP 0052

PEAK HEIGHT (ABSORBANCE) AA 0.048 EC 0.006
PEAK AREA (ABS-SECONDS) 0.082 0.003

READ: 3.6

PEAK HEIGHT (ABSORBANCE) ZAA 0.040 EC 0.005
PEAK AREA (ABS-SECONDS) 0.067 0.004

READ: 3.0

MEAN= 3.3 STD.DEV.= COEF.VAR.= 13.48 %

CP 0053

PEAK HEIGHT (ABSORBANCE) AA 0.044 EC 0.005
PEAK AREA (ABS-SECONDS) 0.073 0.006

READ: 3.2

PEAK HEIGHT (ABSORBANCE) ZAA 0.041 EC 0.005
PEAK AREA (ABS-SECONDS) 0.070 0.005

READ: 3.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.136
0.180

EG
0.001
-0.048

READ: 12.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.138
0.190

EG
0.007
-0.041

READ: 13.0

MEAN= 13.0 STD.DEV.=

COEF.VAR.= 0.80 %

CR 0055

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.158
0.257

EG
0.010
0.015

READ: 13.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.157
0.254

EG
0.010
0.012

READ: 13.7

MEAN= 13.7 STD.DEV.=

COEF.VAR.= 0.09 %

CP 0056

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.121
0.192

EG
0.004
0.009

READ: 10.7

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.123
0.195

EG
0.005
0.005

READ: 10.6

MEAN= 10.7 STD.DEV.=

COEF.VAR.= 1.04 %

CR 0057

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.038
0.054

EG
0.004
0.001

READ: 2.9

PEAK HEIGHT (ABSORBANCE)

AA
0.036

EG
0.001

MEAN= 2.8 STD.DEV.= COEF.VAR.= 7.59 %

CR 0059

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.219
0.354
ZAA 0.210
0.337
PG 0.011
0.010

READ: 19.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.224
0.350
ZAA 0.214
0.345
PG 0.010
0.015

READ: 20.1

MEAN= 19.8 STD.DEV.=

COEF.VAR.= 1.80 %

CR 0059

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.016
0.021
ZAA 0.017
0.023
PG 0.004
0.001

READ: 0.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.011
0.015
ZAA 0.011
0.011
PG 0.004
0.004

READ: -0.1

MEAN= 0.2 STD.DEV.=

COEF.VAR.= 99.99 %

CR 0059

Woodward Clyde

(Totals)

9405000
D02
D45

60119-148

0608E

PROGRAMMING MODE USER MENU # 06 HG DATE: 94/06/08

ELEMENT: HG WAVELENGTH (NM): 253.7 SLIT (NM): 0.7
FLAME: AIR-ACETYLENE, OXIDIZING (LEAN, BLUE)
CHAR CONC: 4.2 SENS. CHECK (HG/L): 200.0 LINEAR TO (MG/L): 300.0

1. TECHNIQUE: AA-BG 2. LAMP CURRENT (MA): 5
3. SIGNAL PROCESSING: HOLD 4. CALIBRATION: LINEAR
5. NOMINAL WEIGHT: 1.0 6. STATISTICS: SINGLE READING
7. TIME (SECONDS): 1.0 8. READ DELAY (SECONDS): 0.0
9. SCREEN FORMAT: BASIC DATA 10. PRINTER: MAIN SUPPL
11. RECORDER SIGNAL: 0.2 CONT ABS 12. RECORDER EAS: 1000

13. S1: 0.50 14. S2: 1.00 15. S3: 5.00
16. S4: 10.00 17. S5: 18. S6:
19. S7: 20. S8: 21. RSLP:

TIME: 15:05

HG
RESISTANCE

0.00C AUTOZERO

HG

RESISTANCE : : AA AA-BG BG
0.001 -0.001 0.002

0.50 STANDARD 1

HG

RESISTANCE : : AA AA-BG BG
0.010 0.011 0.000

0.55 STANDARD 2

HG

RESISTANCE : : AA AA-BG BG
0.011 0.100 0.001

5.00 STANDARD 3

HG

RESISTANCE : : AA AA-BG BG
0.150 0.157 0.000

9.96 STANDARD 4

HG

RESISTANCE : : AA AA-BG BG
0.150 0.157 0.000

1.58 11B-5pk dup

HG 0011

ABSORBANCE

AA
0.004
AA-BG
0.002
BG
0.002

0.09

HG 0012

AA
0.012
AA-BG
0.010
BG
0.002

0.50

HG 0013

AA
0.005
AA-BG
0.002
BG
0.002

0.11

HG 0014

AA
0.002
AA-BG
0.001
BG
0.002

0.04

HG 0015

AA
0.003
AA-BG
0.001
BG
0.002

0.07

HG 0016

AA
0.002
AA-BG
0.000
BG
0.002

0.01

HG 0017

AA
0.002
AA-BG
0.000
BG
0.002

0.01

HG 0018

AA
0.001
AA-BG
0.000
BG
0.000

0.00

HG 0019

0405083-30

405D00-1C (sample)

0.05

11G 0020

ABSORBANCE

AA 0.055
AA-BG 0.054
BG 0.001

2.72

cell

11G 0021

ABSORBANCE

AA 0.002
AA-BG 0.001
BG 0.001

0.05

cell

11G 0022

ABSORBANCE

AA 0.011
AA-BG 0.011
BG 0.001

0.05

cell

11G 0023

ABSORBANCE

AA 0.042
AA-BG 0.041
BG 0.001

2.00

1C (741C)

11G 0024

ABSORBANCE

AA 0.029
AA-BG 0.029
BG 0.000

1.47

15C (spt dig 1C)

11G 0025

ABSORBANCE

AA 0.000
AA-BG -0.001
BG 0.000

-0.04

16C (dupl. cat 1C)

11G 0026

ABSORBANCE

AA 0.000
AA-BG 0.000
BG 0.000

0.00

cell

11G 0027

ABSORBANCE

AA 0.000
AA-BG 0.000
BG 0.000

0.67

cell

11G 0028

ABSORBANCE

AA 0.000
AA-BG 0.000
BG 0.000

-0.05

116 0039
RESORBANCE
AH AH-EG EG
-0.001 -0.002 0.000

-0.05

116 0030
RESORBANCE
AH AH-EG EG
0.001 0.002 0.001

-0.05

116 0031
RESORBANCE
AH AH-EG EG
-0.001 -0.002 0.000

-0.05

116 0032
RESORBANCE
AH AH-EG EG
0.001 0.002 0.001

-0.05

116 0033
RESORBANCE
AH AH-EG EG
0.000 -0.001 0.000

-0.04

116 0034
RESORBANCE
AH AH-EG EG
-0.001 -0.002 0.001

-0.05

116 0035
RESORBANCE
AH AH-EG EG
0.001 0.002 0.001

-0.05

116 0036
RESORBANCE
AH AH-EG EG
0.001 0.002 0.001

-0.05

116 0037
RESORBANCE
AH AH-EG EG
0.001 0.002 0.001

0.11
 HG 0038
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

2A

0.11
 HG 0039
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

3A

0.11
 HG 0040
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

4A

0.11
 HG 0041
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

7A

0.11
 HG 0042
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

8A

0.11
 HG 0043
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

13A

0.13
 HG 0044
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

100/3

0.13
 HG 0045
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

100/3

0.13
 HG 0046
 REFERENCE
 AH 0.002
 AH-EG 0.002
 EG 0.001

11 0047

ABSORBANCE

HH 0.005

HH-BG 0.003

BG 0.001

0.17

111 0048

ABSORBANCE

HH 0.004

HH-BG 0.001

BG 0.001

0.07

111 0049

ABSORBANCE

HH 0.004

HH-BG 0.001

BG 0.001

-0.03

111 0050

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

0.01

111 0051

ABSORBANCE

HH 0.003

HH-BG 0.001

BG 0.001

0.01

111 0052

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

-0.02

111 0053

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

111 0053

(CONTINUED)

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

-0.02

111 0054

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

-0.01

111 0055

ABSORBANCE

HH 0.001

HH-BG 0.001

BG 0.001

19A

20A

25A

26A

9405A15-22

32

4C

5C

0050

ABSORBANCE

0.009 0.009 0.009

2.27

110 0057

ABSORBANCE

0.004 0.004 0.004

0.01

110 0058

ABSORBANCE

0.001 0.001 0.001

0.02

110 0059

ABSORBANCE

0.001 0.001 0.001

0.03

110 0060

ABSORBANCE

0.001 0.001 0.001

0.01

110 0061

ABSORBANCE

0.001 0.001 0.001

0.05

110 0062

ABSORBANCE

0.001 0.001 0.001

110 0062

ABSORBANCE

0.001 0.001 0.001

0.01

110 0063

ABSORBANCE

0.001 0.001 0.001

9405046-32A (Composite of 4 JHRS)

0000

RESIDUANCE

0.000

0.000

0.000

5.70

Lot 219

LESS-3

110 0000

RESIDUANCE

0.004

0.000

0.000

-0.08

9406112-1A

110 0000

RESIDUANCE

0.000

0.000

0.000

1.68

1155A

110 0000

RESIDUANCE

0.000

0.000

0.000

0.12

1155A

110 0000

RESIDUANCE

0.000

0.000

0.000

0.12

3E

110 0070

RESIDUANCE

0.000

0.000

0.000

0.12

4C

110 0071

RESIDUANCE

0.000

0.000

0.000

110 0071

CONTINUED

RESIDUANCE

0.000

0.000

0.000

0.04

5C

110 0072

RESIDUANCE

0.000

0.000

0.000

0.12

1155A

110 0070

RESIDUANCE

0.000

0.000

0.000

0.14
0.000
0.000
0.000

9406112-6C

0075
0.001
0.002
0.003

PR-1

0.09
0.000
0.000
0.000

lot 219
less-4
SOL #105

3.04
0.000
0.000
0.000

9406119-1C

0.000
0.000
0.000
0.000

10 5pk

0.000
0.000
0.000
0.000

10 5pk

0.000
0.000
0.000
0.000

2C

0.000
0.000
0.000
0.000

3C

0.000
0.000
0.000
0.000

5 7 0

100.0 100.0 100.0
BG BG BG

TIME 100.00

5C

11.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

4C

90.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

7C

20.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

8C

11.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

9C

20.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

10C

2.72

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

11C

21.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

12C

21.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

13C

21.0

100.0 100.0 100.0
BG BG BG
RESISTANCE 100.00

APPROPRIATE

0.000

0.000

0.000

0.15

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

0.00

0.000

0.000

APPROPRIATE

0.000

0.000

0.000

oper Tech

PROGRAMMING MODE INSTRUMENT USER METH # 08 - SE DATE: 01/06/15
ELEMENT: SE WAVELENGTH (NM): 196.0 SLIT (UM): 2.0
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP DATE: 1/1/00
PRETREAT TEMP: 900 ATOMIZE TEMP: 2100 CHARGES: 1000

1. TECHNIQUE: ZEEMAN
3. SIGNAL PROCESSING: PEAK AREA
5. TIME (SECONDS): 5.0
7. SCREEN FORMAT: 1.0 GRAPHICS
9. RECORDER SIGNAL: 0.2 CONT ABS
11. STATISTICS: 2 AVERAGE & CV
13. ROLLOVER(ABS): 1.400

2. LAMP CURRENT (MA): 6
4. CALIBRATION: LINEAR
6. PEAK DELAY (SECONDS): 0.0
8. PRINTER: MAIN GROUP
10. RECORDING EXP: 1000
12. NOMINAL WEIGHT 1.0
14. RG SCALE: 1.0

15. S1: 25.0 16. S2: 70.0 17. S3: 100.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. S9: 0.0

off wfc
0615B

SEE

TIME 10:10

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.013
0.009

RG
0.016
0.001

READ: 0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.010
-0.007

RG
0.013
0.008

READ: -0.007

MEAN= -0.003 STD.DEV.=

COEF.VAR.= 99.99%

0.000 AUTOZERO

SEE

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.173
0.117

RG
0.035
0.031

READ: 0.081

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.173
0.124

RG
0.033
0.030

READ: 0.054

MEAN= 0.082 STD.DEV.=

COEF.VAR.= 2.09%

25.0 STANDARD

SEE

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.325
0.224

RG
0.030
0.026

PEAK HEIGHT (ABSORBANCE) 0.220 0.020 0.050
PEAK AREA (ABS-SECONDS) 0.159 0.060

READ: 47.1

S2

MEAN= 48.4 STD.DEV.= COEF.VAR.= 3.75 %
48.4

E-50: READING GREATER THAN HIGHEST STANDARD

STANDARD 2

SE

PEAK HEIGHT (ABSORBANCE) AA 0.594 TAA 0.455 EC 0.143
PEAK AREA (ABS-SECONDS) 0.404 0.304 0.100

READ: 93.4

(CONTINUED)

PEAK HEIGHT (ABSORBANCE) AA 0.598 TAA 0.451 EC 0.146
PEAK AREA (ABS-SECONDS) 0.410 0.302 0.109

READ: 92.8

S3

MEAN= 93.1 STD.DEV.= COEF.VAR.= 0.41 %
93.1

E-50: READING GREATER THAN HIGHEST STANDARD

STANDARD 3

SE

PEAK HEIGHT (ABSORBANCE) AA 0.312 TAA 0.239 EC 0.077
PEAK AREA (ABS-SECONDS) 0.213 0.149 0.064

READ: 47.6

PEAK HEIGHT (ABSORBANCE) AA 0.310 TAA 0.242 EC 0.073
PEAK AREA (ABS-SECONDS) 0.216 0.163 0.053

READ: 52.1

LEV

MEAN= 49.8 STD.DEV.= COEF.VAR.= 6.35 %
49.8

SE

PEAK HEIGHT (ABSORBANCE) AA 0.010 TAA 0.009 EC 0.000
PEAK AREA (ABS-SECONDS) 0.008 0.000 0.000

READ: -1.3

READ: -1.8

MEAN= -1.5 STD.DEV.= 20.12

SEE 0007

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.011 0.007 0.010
 0.017 0.000 0.011

PEAD: -1.4

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.010 0.002 0.002
 0.008 0.002 0.002

PEAD: -1.3

MEAN= -1.7 STD.DEV.= 20.65

SEE 0008

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.236 0.252 0.086
 0.222 0.155 0.052

PEAD: 49.5

Handwritten calculation:

$$\frac{(49.9)(20)(100)}{122.0} = 81.6\%$$

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.345 0.256 0.077

READ: 50.2

MEAN= 49.9 STD.DEV.= 0.88

SEE 0009

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.158 0.019 0.140
 0.413 0.016 0.007

PEAD: 4.1

PEAK HEIGHT (ABSORBANCE) AA ZAA BC
 PEAK AREA (ABS-SECONDS) 0.154 0.019 0.136
 0.430 0.017 0.017

PEAD: 4.3

MEAN= 4.2 STD.DEV.= 4.82

SEE 0010

Avg	- .0022	2.675	.0035	.1001	.0021	239.4	.0007
SDev	.0000	.003	.0108	.0000	.0001	.9	.0026
XRSD	1.168	.1170	309.0	.0219	2.372	.3934	367.6
#1	- .0022	2.677	- .0041	.1001	.0021	238.7	- .0011
#2	- .0022	2.672	.0111	.1001	.0022	240.1	.0026
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Hg2790	Hn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0266	.0203	10.38	- .0175	18.74	.5489
SDev	.0013	.0010	.0017	.02	.6698	.09	.0018
XRSD	43.68	3.689	8.558	.1803	3829.	.4822	.3237
#1	.0021	.0273	.0191	10.36	- .4911	18.68	.5477
#2	.0040	.0259	.0216	10.39	.4562	18.81	.5402
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Ti1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4884	.0321	.0595	.0031	.0944	- .0724	.0087
SDev	.0115	.0034	.0317	.0139	.0292	.0699	.0002
XRSD	2.346	10.76	53.19	454.3	30.90	96.66	2.001
#1	.4803	.0297	.0371	- .0068	.0738	- .1218	.0086
#2	.4965	.0345	.0819	.0129	.1150	- .0229	.0088
Elem	Zn2138						
Units	ppm						
Avg	.0906						
SDev	.0011						
XRSD	1.199						
#1	.0899						
#2	.0914						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	33086	--	--	--	--	--	--
SDev	556.4930	--	--	--	--	--	--
XRSD	1.681934	--	--	--	--	--	--
#1	33480	--	--	--	--	--	--
#2	32693	--	--	--	--	--	--

Method: ENVIR094 Sample Name: CCV3 Operator: DQ
Run Time: 06/14/94 15:41:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.845	9.651	10.34	10.04	10.06	9.828	9.830
SDev	.003	.027	.04	.01	.00	.023	.025
XRSD	.1509	.2802	.3873	.0900	.0182	.2311	.2547



APPENDIX F
CHAIN-OF-CUSTODY

THIS PAGE INTENTIONALLY LEFT BLANK

9406119

Page 1 of 2



Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.		Client/Project Name		Project Location		
1308-191		OPERATIONAL TECHNOLOGIES Corp.		ZANESVILLE ANG-S, Ohio		
Field Sample No./ Identification	Date and Time	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
A-04 BH Int 1	6/2/94 1120	Brass Sleeve (2)	Soil	Ice	VOC / SVOC / TPH / METALS	
A-04 BH Int 2	6/2/94 1140	"	"	"	"	
A-05 BH Int 1	6/2/94 1315	"	"	"	"	
A-05 BH Int 2	6/2/94 1318	"	"	"	"	
A-06 BH Int 1	6/2/94 1350	"	"	"	"	
A-06 BH Int 2	6/2/94 1410	"	"	"	"	
A-07 BH Int 1	6/2/94 1500	"	"	"	"	
A-07 BH Int 2	6/2/94 1507	"	"	"	"	
A-03 BH Int 1	6/2/94 1550	"	"	"	"	
A-03 BH Int 2	6/2/94 1555	"	"	"	"	
Relinquished by: <i>Earl E. Parker II</i>		Relinquished by: <i>Earl E. Parker II</i>		Received by: <i>M. Brown</i>		Date: 6/2/94 Time: 1900 hrs
Signature: <i>Earl E. Parker II</i>		Signature: <i>Earl E. Parker II</i>		Signature: <i>M. Brown</i>		Date: 6/2/94 Time: 1900
Affiliation		Affiliation		Affiliation		Date: 6/2/94 Time: 1900
SAMPLER REMARKS: VOC - SW 5030 / SW 8240 SVOC - SW 8270		TPH - CA Med 8015		Data Results to:		Date: 6/2/94 Time: 1900
Seal #		Metals - SW Series		Laboratory No.		Date: 6/2/94 Time: 1900

EUT2950E9



Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.							Client/Project Name						Project Location							
1308-191							OPERATIONAL TECHNOLOGIES CORP						ZANESVILLE ANGCS, OHIO							
Field Sample No./ Identification		Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED					LABORATORY REMARKS							
A-01 BH Int 1	6/2/94 1620	/	BESS SLEEVE	SOIL	ICE	VOC / SVOC / TPH / METALS														
A-01 BH Int 2	6/2/94 1628	/	"	"	"	"														
A-02 BH Int 1	6/2/94 1655	/	"	"	"	"														
A-02 BH Int 2	6/2/94 1708	/	"	"	"	"														
N O T H I N G					FOLLOWS	BELOW														
														Sampers: (Signature) <i>Earl E. Lohr</i>	Date: 6/2/94 Time: 1900 hrs	Received by: X (Signature) <i>M. B. Brown</i>	Date: 6/2/94 Time: 1900	Intact		
														Relinquished by: (Signature) <i>Earl E. Lohr II</i>	Date:	Received by: (Signature)	Date:	Intact		
														Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Intact		
														Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Intact		
														Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Intact		
AFFILIATION														Date: 6/1/94 Time: 10:00					Laboratory No.	
SEAL #														Seal Results to:						
SEE PAGE 1																				
SAMPLE REMARKS:																				

SEE PAGE 1

EO 12950 E9

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 6/3 TIME: 10:00 CLIENT NO. _____
 LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9406119

- | | <u>YES</u> | <u>NO</u> |
|---|-----------------------|------------------------|
| 1. Is a Chain-of-Custody form present? | <u>✓</u> | |
| 2. Is the COC properly completed? | <u>✓</u> | |
| If no, describe what is incomplete: | | |
| _____ | | |
| _____ | | |
| If no, has the client been contacted about it? | | |
| (Attach subsequent documentation from client about the situation) | | |
| 3. Is airbill/packing list/bill of lading with shipment? | <u>✓</u> | |
| If yes, ID#: <u>By Fed Ex : 6305621103</u> | | |
| 4. Is a USEPA Traffic Report present? | | <u>✓</u> |
| 5. Is a USEPA SAS Packing List present? | | <u>✓</u> |
| 6. Are custody seals present on the package? | <u>✓</u> | |
| If yes, were they intact upon receipt? | | |
| | <u>✓</u> | |
| 7. Are all samples tagged or labeled? | <u>✓</u> | |
| Do the sample tags/labels match the COC? | | |
| | <u>✓</u> | |
| If no, has the client been contacted about it? | | |
| (Attach subsequent documentation from client about the situation) | | |
| 8. Do all shipping documents agree? | <u>✓</u> | |
| If no, describe what is in nonconformity: | | |
| _____ | | |
| _____ | | |
| 9. Condition/temperature of shipping container: | <u>INTACT 3°C</u> | |
| 10. Condition/temperature of sample bottles: | <u>GOOD 3°C</u> | |
| 11. Sample Disposal?: | SPL disposal <u>✓</u> | Return to client _____ |

NOTES (reference item number if applicable): _____

ATTEST: [Signature] DATE: 6/3/94
 DELIVERED FOR RESOLUTION: REC'D DATE: _____
 RESOLVED: _____ DATE: _____

9406170



Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.		Client/Project Name		Project Location		
1308-191		OPERATIONAL TECHNOLOGIES CORP		ZANESVILLE, OHIO		
Field Sample No./ Identification	Date and Time	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
B-003 BH Int 1	6/3/94 0815	Brown Sludge (2)	SOIL	ICE	LEAD by Method SW.742.1	
B-003 BH Int 2	6/3/94 0825	"	"	"	"	
B-002 BH Int 1	6/3/94 0850	"	"	"	"	
B-002 BH Int 2	6/3/94 0905	"	"	"	"	
B-001 BH Int 1	6/3/94 0918	"	"	"	"	
B-001 BH Int 2	6/3/94 0930	"	"	"	"	
NOTHING		FOLLOWS		BELOW		
Sampers: (Signature)		Relinquished by: (Signature)		Date: 6/3/94 Time: 1118		Date: 6/3 Time: 1130
Carol E. Parker		Carol E. Parker		Federal Express		
Encl E Parker		Relinquished by: (Signature)		Date: Time:		Date: Time:
Affiliation		Relinquished by: (Signature)		Date: Time:		Date: Time:
		Relinquished by: (Signature)		Date: Time:		Date: Time:
		Relinquished by: (Signature)		Date: Time:		Date: Time:
		Relinquished by: (Signature)		Date: Time:		Date: Time:
SAMPLER REMARKS:		6305621066		Received by: (Signature) Date: 6/3/94 Time: 1100		Laboratory No. 21071007
Seal #				Data Results to:		

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 00/00/94 TIME: 09:50 CLIENT NO. _____
 LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9400170

- | | <u>YES</u> | <u>NO</u> |
|---|------------|------------------------|
| 1. Is a Chain-of-Custody form present? | <u>✓</u> | _____ |
| 2. Is the COC properly completed? | <u>✓</u> | _____ |
| If no, describe what is incomplete: | | |
| _____ | | |
| _____ | | |
| _____ | | |
| If no, has the client been contacted about it? | | |
| (Attach subsequent documentation from client about the situation) | | |
| 3. Is airbill/packing list/bill of lading with shipment? | <u>✓</u> | _____ |
| If yes, ID#: <u>FED EX 10305621000</u> | | |
| 4. Is a USEPA Traffic Report present? | _____ | <u>✓</u> |
| 5. Is a USEPA SAS Packing List present? | _____ | <u>✓</u> |
| 6. Are custody seals present on the package? | <u>✓</u> | _____ |
| If yes, were they intact upon receipt? | | |
| _____ | | |
| 7. Are all samples tagged or labeled? | <u>✓</u> | _____ |
| Do the sample tags/labels match the COC? | | |
| _____ | | |
| If no, has the client been contacted about it? | | |
| (Attach subsequent documentation from client about the situation) | | |
| 8. Do all shipping documents agree? | <u>✓</u> | _____ |
| If no, describe what is in nonconformity: | | |
| _____ | | |
| 9. Condition/temperature of shipping container: | <u>3</u> | <u>INTACT</u> |
| 10. Condition/temperature of sample bottles: | <u>3</u> | <u>INTACT</u> |
| 11. Sample Disposal?: | <u>✓</u> | Return to client _____ |
| SPL disposal _____ | | |

NOTES (reference item number if applicable): _____

ATTEST: Rich Linsell DATE: 00/00/94
 DELIVERED FOR RESOLUTION: REC'D DATE: _____
 RESOLVED: _____ DATE: _____

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.105
0.257
ZAA
0.003
-0.002
P
0.100
0.000

READ: -2.1

MEAN= -1.6 STD.DEV.=

COEF.VAR.= 40.43 %

SE 0011

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.184
0.476
ZAA
0.002
0.024
BC
0.170
0.100

READ: 6.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.176
0.459
ZAA
0.025
0.020
P
0.160
0.100

READ: 5.2

MEAN= 5.8 STD.DEV.=

COEF.VAR.= 16.07 %

SE 0012

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.128
0.330
ZAA
0.010
0.003
P
0.120
0.030

READ: -0.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.112
0.298
ZAA
0.008
-0.003
BC
0.110
0.000

READ: -2.2

MEAN= -1.3 STD.DEV.=

COEF.VAR.= 96.60 %

SE 0013

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.107
0.286
ZAA
0.015
-0.003
BC
0.100
0.000

READ: -2.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.094
0.245
ZAA
0.011
-0.002
BC
0.090
0.000

READ: -2.2

MEAN= -2.3 STD.DEV.=

COEF.VAR.= 9.99 %

PEAD: -1.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.046
0.082

AA
0.046
0.082

PEAD: -1.6

MEAN= -1.7 STD.DEV.=

COEF. VAR. = 5.88

SEE 0.015

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.121
0.236

AA
0.121
0.236

PEAD: -0.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.114
0.230

AA
0.114
0.230

PEAD: -3.1

MEAN= -1.7 STD.DEV.=

COEF. VAR. = 99.1

SEE 0.015

SEE 0.016

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.103
0.247

AA
0.103
0.247

PEAD: -3.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.097
0.244

AA
0.097
0.244

PEAD: -0.2

MEAN= -1.7 STD.DEV.=

COEF. VAR. = 99.9

SEE 0.017

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.098
0.228

AA
0.098
0.228

PEAD: -1.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.092
0.228

AA
0.092
0.228

PEAD: -3.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.123
0.333
ZAA
0.015
0.004
PC
0.110
0.379

READ: -0.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.128
0.310
ZAA
0.012
-0.006
PC
0.124
0.306

READ: -3.4

MEAN= -1.7 STD. DEV.=

COEF. VAR. = 93.99 %

SEE 0.019

-100

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.340
0.237
ZAA
0.272
0.154
PC
0.601
0.951

READ: 49.2

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.338
0.220
ZAA
0.292
0.167
PC
0.585
0.905

READ: 53.5

Cell

MEAN= 51.4 STD. DEV.=

COEF. VAR. = 5.90 %

SEE 0.020

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.012
0.015
ZAA
0.012
0.005
PC
0.010
0.010

READ: 0.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.013
0.013
ZAA
0.011
0.005
PC
0.010
0.010

READ: -2.9

MEAN= -1.3 STD. DEV.=

COEF. VAR. = 99.98 %

SEE 0.021

Cell

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.181
0.456
ZAA
0.032
0.002
PC
0.185
0.456

READ: 5.8

PEAK HEIGHT (ABSORBANCE)

AA
0.181
0.456
ZAA
0.032
0.002
PC
0.185
0.456

MEAN= 5.8 STD. DEV.= COEF. VAP.= 1.53 /

SEE 0022

PEAK HEIGHT (ABSORBANCE) AA 0.076 ZAA 0.012
PEAK AREA (ABS-SECONDS) 0.150 -0.002

READ: -2.0

PEAK HEIGHT (ABSORBANCE) AA 0.072 ZAA 0.015
PEAK AREA (ABS-SECONDS) 0.144 -0.002

READ: -2.1

MEAN= -2.1 STD. DEV.= COEF. VAP.= 1.25 /

SEE 0023

PEAK HEIGHT (ABSORBANCE) AA 0.074 ZAA 0.013
PEAK AREA (ABS-SECONDS) 0.134 0.001

READ: -1.2

PEAK HEIGHT (ABSORBANCE) AA 0.077 ZAA 0.017
PEAK AREA (ABS-SECONDS) 0.139 0.000

READ: 1.5

MEAN= 0.2 STD. DEV.= COEF. VAP.= 99.90 /

SEE 0024

PEAK HEIGHT (ABSORBANCE) AA 0.115 ZAA 0.010
PEAK AREA (ABS-SECONDS) 0.291 -0.002

READ: -2.1

PEAK HEIGHT (ABSORBANCE) AA 0.119 ZAA 0.017
PEAK AREA (ABS-SECONDS) 0.308 0.006

READ: 0.6

MEAN= -0.7 STD. DEV.= COEF. VAP.= 99.99 /

SEE 0025

PEAK HEIGHT (ABSORBANCE) AA 0.098 ZAA 0.016
PEAK AREA (ABS-SECONDS) 0.432 0.000

READ: 1.1

06220-18
READ: -1.0
MEAN= -0.2
STD. DEV. =
COEF. VAP. = 99.99
SIE 0026

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.024
0.040
ZAA 0.016
0.003
BC 0.076
0.003

READ: -0.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.029
0.043
ZAA 0.013
0.005
BC 0.076
0.003

-28

MEAN= 0.0
STD. DEV. =
COEF. VAP. = 99.99
SIE 0027

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.199
0.152
ZAA 0.162
0.065
BC 0.042
0.003

READ: 26.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.201
0.161
ZAA 0.150
0.066
BC 0.042
0.003

-28

MEAN= 28.2
STD. DEV. =
COEF. VAP. = 9.94
SIE 0028

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.192
0.153
ZAA 0.160
0.031
BC 0.042
0.003

READ: 29.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.196
0.156
ZAA 0.153
0.031
BC 0.042
0.003

-28

MEAN= 28.6
STD. DEV. =
COEF. VAP. = 0.51
SIE 0029

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)
AA 0.196
0.156
ZAA 0.153
0.031
BC 0.042
0.003

PEAK HEIGHT (ABSORBEANCE) AA 0.049 ZAA 0.020 PC 0.012
PEAK AREA (ABS-SECONDS) 0.073 0.000 0.003

06221-19

READ: -1.4

MEAN= -0.1 STD.DEV.= COEF.VAR.= 99.99 %

SEE 0030

PEAK HEIGHT (ABSORBEANCE) AA 0.142 ZAA 0.011 PC 0.142
PEAK AREA (ABS-SECONDS) 0.305 -0.003 0.000

READ: -2.3

PEAK HEIGHT (ABSORBEANCE) AA 0.142 ZAA 0.015 PC 0.142
PEAK AREA (ABS-SECONDS) 0.300 -0.000 0.000

-28

MEAN= -2.8 STD.DEV.= COEF.VAR.= 29.55 %

SEE 0031

PEAK HEIGHT (ABSORBEANCE) AA 0.024 ZAA 0.010 PC 0.024
PEAK AREA (ABS-SECONDS) 0.150 0.001 0.000

READ: -0.9

PEAK HEIGHT (ABSORBEANCE) AA 0.069 ZAA 0.013 PC 0.069
PEAK AREA (ABS-SECONDS) 0.110 -0.002 0.000

-39

MEAN= -1.5 STD.DEV.= COEF.VAR.= 53.34 %

SEE 0032

PEAK HEIGHT (ABSORBEANCE) AA 0.020 ZAA 0.015 PC 0.020
PEAK AREA (ABS-SECONDS) 0.036 -0.004 0.000

READ: -2.7

PEAK HEIGHT (ABSORBEANCE) AA 0.022 ZAA 0.013 PC 0.022
PEAK AREA (ABS-SECONDS) 0.023 -0.000 0.000

-45

READ: -3.5

MEAN= -3.1 STD.DEV.= COEF.VAR.= 15.01 %

READ: 56.9

SEE 0033

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.018
0.021
ZAA 0.012
0.004
EC 0.011
0.017

READ: 0.0

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.013
0.010
ZAA 0.010
0.002
EC 0.011
0.017

READ: -2.0

MEAN= 1.0 STD.DEV.=

COEF. VAR. = 99.99

SEE 0034

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.410
0.262
ZAA 0.236
0.195
EC 0.002
0.002

READ: 62.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.398
0.267
ZAA 0.326
0.203
EC 0.002
0.002

READ: 65.2

MEAN= 64.1 STD.DEV.=

COEF. VAR. = 2.58

SEE 0035

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.307
0.229
ZAA 0.252
0.167
EC 0.002
0.002

READ: 53.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.238
0.196
ZAA 0.232
0.143
EC 0.002
0.002

READ: 45.5

MEAN= 49.5 STD.DEV.=

COEF. VAR. = 11.99

SEE 0036

PEAK HEIGHT (ABSORBANCE)

AA 0.014
0.013
ZAA 0.013
0.007
EC 0.002
0.002

PEAK AREA (ABS-SECONDS)

READ: 0.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.016
0.013
ZAA 0.014
0.008
EC 0.002
0.002

SE 0037

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.058
0.092
ZAA 0.016
0.105
EG 0.057
0.115

PEAD: 0.4

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.061
0.058
ZAA 0.013
0.004
EG 0.060
0.007

PEAD: 2.6

MEAN= -1.1 STD.DEV.=

COEF.VAR.= 99.99

SE 0038

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.202
0.172
ZAA 0.161
0.084
EG 0.040
0.070

PEAD: 25.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.185
0.164
ZAA 0.143
0.082
EG 0.091
0.091

PEAD: 25.7

MEAN= 26.0 STD.DEV.=

COEF.VAR.= 1.79

SE 0039

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.177
0.162
ZAA 0.144
0.095
EG 0.091
0.091

PEAD: 26.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.175
0.150
ZAA 0.140
0.090
EG 0.091
0.091

PEAD: 30.1

MEAN= 28.4 STD.DEV.=

COEF.VAR.= 0.70

SE 0040

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

AA 0.013
0.011
ZAA 0.011
0.006
EG 0.002
0.002

PEAD: 0.6

06378-7c (Qc only)

-7c Spk

-7c Spk

PBS-101

MEAN= -0.1 STD.DEV.= COEF.VAR.= 99.99 %

SE 0.041

PEAK HEIGHT (ABSORBANCE) AA 0.199 ZAA 0.164 EC 0.042
PEAK AREA (ABS-SECONDS) 0.151 0.111 0.059

READ: 35.2

PEAK HEIGHT (ABSORBANCE) AA 0.216 ZAA 0.173 EC 0.050
PEAK AREA (ABS-SECONDS) 0.185 0.109 0.054

READ: 34.2

MEAN= 34.8 STD.DEV.= COEF.VAR.= 1.84 %

SE 0.042

PEAK HEIGHT (ABSORBANCE) AA 0.072 ZAA 0.014 EC 0.002
PEAK AREA (ABS-SECONDS) 0.194 0.003 0.002

READ: -2.3

PEAK HEIGHT (ABSORBANCE) AA 0.079 ZAA 0.016 EC 0.072
PEAK AREA (ABS-SECONDS) 0.206 0.004 0.002

READ: 0.1

MEAN= -1.2 STD.DEV.= COEF.VAR.= 99.99 %

SE 0.043

PEAK HEIGHT (ABSORBANCE) AA 0.168 ZAA 0.019 EC 0.152
PEAK AREA (ABS-SECONDS) 0.405 0.009 0.002

READ: 1.6

PEAK HEIGHT (ABSORBANCE) AA 0.166 ZAA 0.019 EC 0.152
PEAK AREA (ABS-SECONDS) 0.425 0.009 0.002

READ: 1.2

MEAN= 1.4 STD.DEV.= COEF.VAR.= 17.43 %

SE 0.044

PEAK HEIGHT (ABSORBANCE) AA 0.263 ZAA 0.013 EC 0.259
PEAK AREA (ABS-SECONDS) 0.639 0.002 0.002

READ: -2.1

PEAK HEIGHT (ABSORBANCE) AA 0.259 ZAA 0.018 EC 0.259
PEAK AREA (ABS-SECONDS) 0.639 0.002 0.002

READ: -3.0

MEAN=

SEE 0045

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.134
1.999

AA
0.023
0.009

PEAD: -4.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
1.17
2.146

AA
0.017
0.002

06112-7c

PEAD: -4.2

MEAN= -4.2 STD.DEV.=

COEF.VAR.= 1.71

SEE 0046

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.308
0.320

AA
0.012
0.011

PEAD: -1.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.101
0.271

AA
0.013
0.001

06251-19

PEAD: -0.9

MEAN= -1.4 STD.DEV.=

COEF.VAR.= 48.57

SEE 0047

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.052
0.023

AA
0.012
0.001

PEAD: -1.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.014
0.004

AA
0.002
0.001

PB 6/12/80

PEAD: -1.4

MEAN= -1.6 STD.DEV.=

COEF.VAR.= 19.25

SEE 0048

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.226
0.154

AA
0.123
0.108

PEAD: 34.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.225
0.158

AA
0.124
0.113

PB 5

SE 0049

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.040
0.079

PA
0.000
0.005

PEAD: 0.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.033
0.075

PA
0.000
0.001

PEAD: 0.0

MEAN= 0.1 STD. DEV. =

COEF. VAR. = 99.99

SE 0050

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.194
0.152

PA
0.000
0.001

PEAD: 25.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.136
0.170

PA
0.000
0.001

PEAD: 27.1

MEAN= 26.1 STD. DEV. =

COEF. VAR. = 5.35

SE 0051

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.191
0.103

PA
0.000
0.001

PEAD: 25.3

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.190
0.172

PA
0.000
0.001

PEAD: 16.5

MEAN= 25.9 STD. DEV. =

COEF. VAR. = 3.34

SE 0052

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.016
0.012

PA
0.000
0.001

PEAD: -2.7

0688-10 (R. n. G.)

-Ac Spf

-Ac Spf

MEAN= -2.7 STD. DEV. = 0.06
COEF. VAP. = 0.06
SE 0053

PEAK HEIGHT (ABSORBANCE) AA 0.394
PEAK AREA (ABS-SECONDS) ZAA 0.323
0.137

READ: 63.4
(63.7)(20)(100) = 127.4
122.0
= 104.4%

PEAK HEIGHT (ABSORBANCE) AA 0.396
PEAK AREA (ABS-SECONDS) ZAA 0.321
0.199

READ: 63.9
PB5
MEAN= 63.7 STD. DEV. = 0.47
SE 0054

PEAK HEIGHT (ABSORBANCE) AA 0.256
PEAK AREA (ABS-SECONDS) ZAA 0.180
0.094

PEAD: 29.4
Note - samples were analyzed in duplicate
AA 0.230
0.518

PEAD: 34.6
06062-1B
MEAN= 32.0 STD. DEV. = 11.61
SE 0055

PEAK HEIGHT (ABSORBANCE) AA 0.206
PEAK AREA (ABS-SECONDS) ZAA 0.149
0.032

PEAD: 30.9
PB
PEAK HEIGHT (ABSORBANCE) AA 0.200
PEAK AREA (ABS-SECONDS) ZAA 0.146
0.032

PEAD: 29.2
MEAN= 30.0 STD. DEV. = 3.91
SE 0055

PEAK HEIGHT (ABSORBANCE) AA 0.221
PEAK AREA (ABS-SECONDS) ZAA 0.143
0.034

PEAD: 30.9
PB
MEAN= 30.0 STD. DEV. = 3.91
SE 0055

PEAK AREA (ABS-SECONDS) 0.503 0.105 0.105

READ: 33.0

MEAN= 31.2 STD. DEV.= COEF. VAR.= 9.05

SE 0057

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

PEAK AREA (ABS-SECONDS) 0.333 0.147 0.290

0.729 0.090 0.090

READ: 28.2

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

0.340 0.106 0.106

PEAK AREA (ABS-SECONDS) 0.766 0.092 0.092

READ: 28.3

MEAN= 28.5 STD. DEV.= COEF. VAR.= 1.66

SE 0058

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

PEAK AREA (ABS-SECONDS) 0.254 0.194 0.101

0.517 0.151 0.309

READ: 48.4

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

PEAK AREA (ABS-SECONDS) 0.262 0.202 0.197

0.481 0.159 0.309

READ: 50.4

MEAN= 49.4 STD. DEV.= COEF. VAR.= 2.84

SE 0059

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

PEAK AREA (ABS-SECONDS) 0.261 0.200 0.110

0.483 0.161 0.229

READ: 51.5

PEAK HEIGHT (ABSORBANCE) AA ZAA PC

PEAK AREA (ABS-SECONDS) 0.263 0.207 0.100

0.479 0.161 0.090

READ: 51.6

MEAN= 51.5 STD. DEV.= COEF. VAR.= 0.17

SE 0060

PC
0.0000
0.0000

ZAA
0.341
0.250

AA
0.300
0.503

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

-3B 57k

READ: 93.2

COEF. VAR. = 9.53

MEAN= 78.0 STD. DEV. =

SEE 0061

PC
0.0000
0.0000

ZAA
0.293
0.210

AA
0.269
0.423

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: 69.2

PC
0.0000
0.0000

ZAA
0.230
0.250

AA
0.274
0.597

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: 90.2

-3B dup 57k

COEF. VAR. = 19.77

MEAN= 79.2 STD. DEV. =

SEE 0062

PC
0.0000
0.0000

ZAA
0.128
0.100

AA
0.150
0.137

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: 31.5

PC
0.0000
0.0000

ZAA
0.106
0.001

AA
0.127
0.105

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: 25.2

COEF. VAR. = 15.00

MEAN= 28.4 STD. DEV. =

SEE 0063

PC
0.0000
0.0000

ZAA
0.012
0.005

AA
0.015
0.020

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: 0.2

PC
0.0000
0.0000

ZAA
0.013
0.000

AA
0.010
0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

READ: -1.6

PC
0.0000
0.0000

ZAA
0.013
0.000

AA
0.010
0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

COEF. VAR. = 99.99

MEAN= -0.7 STD. DEV. =

SEE 0064

PC
0.0000
0.0000

ZAA
0.013
0.000

AA
0.010
0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (AES-SECONDS)

SEE 0065

See R. 1000
W. 1000
C. 1000

PB 60.04

$(20 \times 10 \times 100) = 116.6$
 $\frac{0.264}{0.529} = \frac{1000}{122.0}$
 PB5 20X = 95.7

PEAK HEIGHT (ABSORBEANCE)
 PEAK AREA (ABS-SECONDS)

READ: 56.3
 MEAN= 58.4
 STD.DEV.=
 STE 006.4

COEF. VAR. = 5.29

PEAK HEIGHT (ABSORBEANCE)
 PEAK AREA (ABS-SECONDS)

READ: 50.6

PEAK HEIGHT (ABSORBEANCE)
 PEAK AREA (ABS-SECONDS)

READ: 49.9

MEAN= 50.8
 STD.DEV.=
 STE 006.5
 COEF. VAR. = 1.00

PEAK HEIGHT (ABSORBEANCE)
 PEAK AREA (ABS-SECONDS)

READ: -0.2

PEAK HEIGHT (ABSORBEANCE)
 PEAK AREA (ABS-SECONDS)

READ: -0.6

MEAN= -0.4
 STD.DEV.=
 COEF. VAR. = 66.16

AA 0.230
 ZAA 0.189
 0.203 0.138

AA 0.223
 ZAA 0.183
 0.135 0.157

AA 0.011
 ZAA 0.010
 0.008 0.003

AA 0.010
 ZAA 0.011
 0.005 0.002

CCY3

CB3

Software Version: 3.2 <16C20>

Sample Name : 750 PPM

Sample Number: TC ;S

Operator : SEG

Time : 06/15/94 10:57

Study : DIESEL

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/15/94 09:25

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__111.raw

Result File : C:\DOS\rst1421.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : <none>

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.899	1205913.75	145375.44	BV	1.0000e6	0.0415	921.7238	0.0000
2	5.227	356389.06	41796.38	VV	9.9999e5	0.0415	921.7238	0.0000
3	5.399	210046.25	26948.03	VV	1.0000e6	0.0415	921.7238	0.0000
4	5.590	155732.03	26718.29	VV	1.0000e6	0.0415	921.7238	0.0000
5	5.748	549653.25	63896.97	VV	1.0000e6	0.0415	921.7238	0.0000
6	5.898	705699.50	90372.31	VV	1.0000e6	0.0415	921.7238	0.0000
7	5.980	414955.84	89301.56	VV	1.0000e6	0.0415	921.7238	0.0000
8	6.077	539261.56	80582.56	VV	9.9999e5	0.0415	921.7238	0.0000
9	6.302	687597.94	112836.10	VV	1.0000e6	0.0415	921.7238	0.0000
10	6.486	2902479.00	382432.00	VV	1.0000e6	0.0415	921.7238	0.0000
11	6.658	2588578.50	259541.95	VV	1.0000e6	0.0415	921.7238	0.0000
12	6.940	1184738.75	146585.02	VV	1.0000e6	0.0415	921.7238	0.0000
13	7.230	2887564.00	305618.03	VV	1.0000e6	0.0415	921.7238	0.0000
14	7.322	2631850.50	324244.22	VV	1.0000e6	0.0415	921.7238	0.0000
15	7.524	1718455.00	280743.72	VV	1.0000e6	0.0415	921.7238	0.0000
16	7.622	3393005.00	667751.63	VV	1.0000e6	0.0415	921.7238	0.0000
17	7.796	5161113.50	464507.94	VV	1.0000e6	0.0415	921.7238	0.0000
18	8.036	2213168.25	313228.97	VV	1.0000e6	0.0415	921.7238	0.0000
19	8.135	1122619.50	286029.59	VV	1.0000e6	0.0415	921.7238	0.0000
20	8.236	2182546.25	331541.25	VV	1.0000e6	0.0415	921.7238	0.0000
21	8.346	3086380.50	451288.19	VV	1.0000e6	0.0415	921.7238	0.0000
22	8.569	8067854.50	1.04e6	VV	9.9999e5	0.0415	921.7238	0.0000
23	8.753	5760176.00	603613.50	VV	9.9999e5	0.0415	921.7238	0.0000
24	8.974	4296996.00	565245.50	VV	1.0000e6	0.0415	921.7238	0.0000
25	9.098	7461517.00	699908.69	VV	1.0000e6	0.0415	921.7238	0.0000
26	9.412	11189220.00	1.31e6	VV	9.9999e5	0.0415	921.7238	0.0000
27	9.674	4295712.00	508052.81	VV	1.0000e6	0.0415	921.7238	0.0000
28	9.815	4878618.50	704461.56	VV	9.9999e5	0.0415	921.7238	0.0000
29	9.921	5149599.50	627419.69	VV	1.0000e6	0.0415	921.7238	0.0000
30	10.195	12794202.00	1.50e6	VV	1.0000e6	0.0415	921.7238	0.0000
31	10.389	3785313.00	485801.09	VV	1.0000e6	0.0415	921.7238	0.0000
32	10.554	11247696.00	869843.75	VV	1.0000e6	0.0415	921.7238	0.0000
33	10.935	17482346.00	1.67e6	VV	1.0000e6	0.0415	921.7238	0.0000
34	11.344	11415711.00	624322.94	VV	9.9999e5	0.0415	921.7238	0.0000
35	11.624	11222217.00	1.29e6	VV	1.0000e6	0.0415	921.7238	0.0000
36	11.890	6447271.00	535728.75	VV	1.0000e6	0.0415	921.7238	0.0000
37	12.034	5237693.00	521330.91	VV	1.0000e6	0.0415	921.7238	0.0000
38	12.277	10769700.00	1.04e6	VV	1.0000e6	0.0415	921.7238	0.0000
39	12.548	3286696.00	434240.28	VV	1.0000e6	0.0415	921.7238	0.0000
40	12.593	4562290.50	412720.31	VV	9.9999e5	0.0415	921.7238	0.0000
41	12.905	7240715.50	780308.88	VV	1.0000e6	0.0415	921.7238	0.0000
42	13.152	2333313.75	297759.31	VV	1.0000e6	0.0415	921.7238	0.0000
43	13.338	3383217.50	308030.78	VV	1.0000e6	0.0415	921.7238	0.0000
44	13.512	3814668.50	479878.13	VV	1.0000e6	0.0415	921.7238	0.0000
45	13.717	2286647.75	191211.97	VV	1.0000e6	0.0415	921.7238	0.0000
46	13.923	1386158.38	166850.73	VV	1.0000e6	0.0415	921.7238	0.0000
47	14.090	2269027.75	272925.66	VV	1.0000e6	0.0415	921.7238	0.0000
48	14.285	786731.69	96900.66	VV	1.0000e6	0.0415	921.7238	0.0000
49	14.433	683709.00	76215.35	VV	9.9999e5	0.0415	921.7238	0.0000
50	14.643	1139079.38	112523.82	VV	1.0000e6	0.0415	921.7238	0.0000

105%

RF. 0.63744

21065.92

51	15.185	144885.58	30448.78	VB	9.9999e5	0.0415	921.7238	0.0000
52	15.686	10340864.00	2.09e6	BB	1.0000e6	0.0415	921.7238	0.0000
53	17.846	32244.92	2866.12	BB	1.0000e6	0.0415	921.7238	0.0000
54	18.569	527031.63	17289.76	BV	1.0000e6	0.0415	921.7238	0.0000
55	19.165	341316.56	5882.52	VV	1.0000e6	0.0415	921.7238	0.0000
56	19.262	3534.02	1146.44	VB	1.0000e6	0.0415	921.7238	0.0000

	2.21e8	2.52e7			2.3257	51616.5234	0.0000	

=====
END
=====

Chromatogram

Sample Name : 750 PPM

FileName : L:\DATA\TCHROM\PEST\VARC\C___111.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -137 mV

Sample #: TC ;S

Date : 06/15/94 10:57

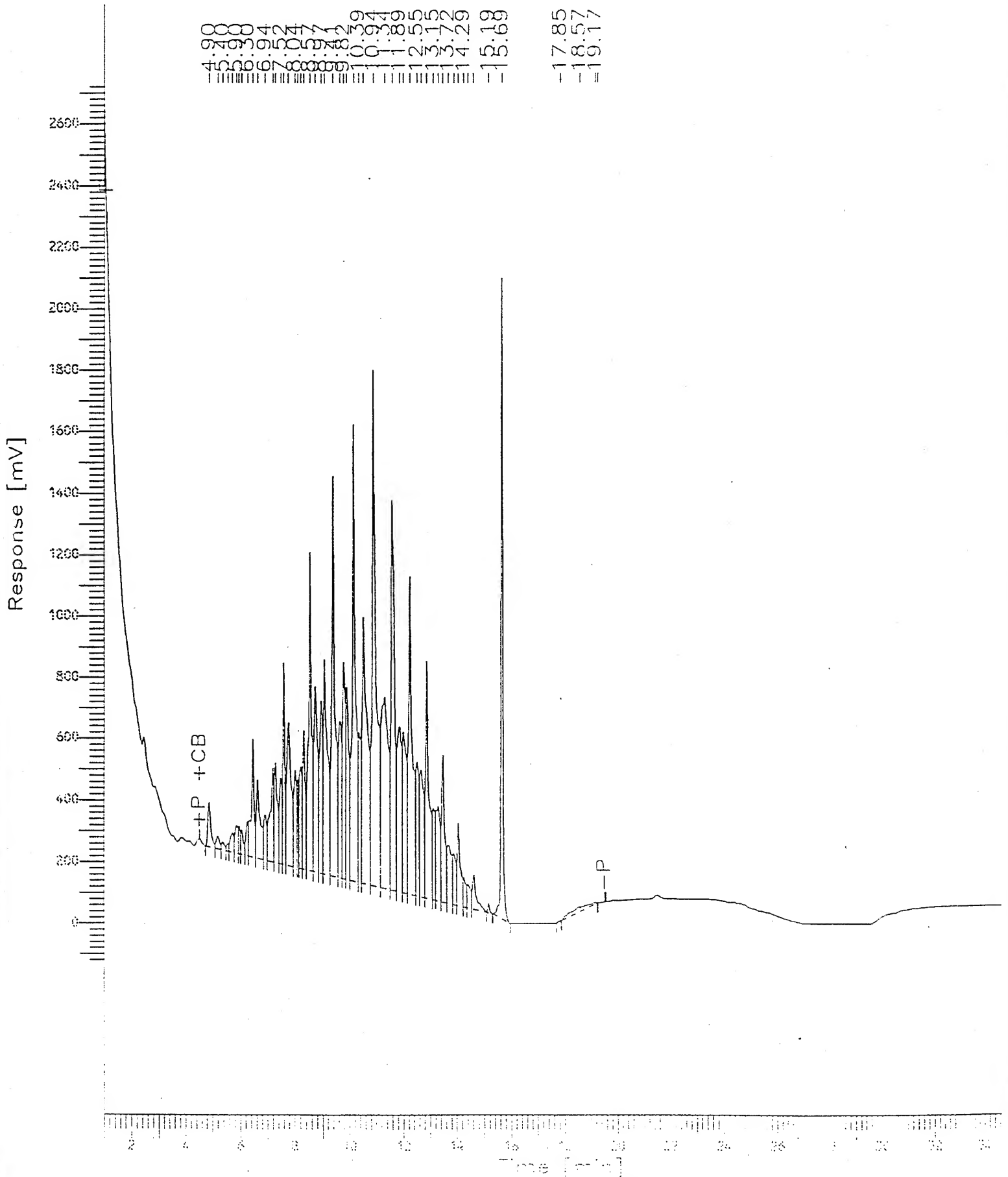
Time of Injection: 06/15/94 09:25

Low Point : -136.71 mV

Plot Scale: 2871 mV

Page 1 of 1

High Point : 2734.44 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-14MS Time : 06/15/94 13:48
Sample Number: KM ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/15/94 13:14
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__115.raw
Result File : l:\data\tchrom\pest\varc\C__115.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.859	5478092.00	698457.63	BV	9.9999e5	0.0415	2865.3762	0.0000
2	5.193	1596473.75	166704.36	VV	1.0000e6	0.0415	2865.3762	0.0000
3	5.400	767461.25	98603.01	VV	1.0000e6	0.0415	2865.3762	0.0000
4	5.535	1225442.13	188118.14	VV	9.9999e5	0.0415	2865.3762	0.0000
5	5.684	2242634.25	279313.09	VV	1.0000e6	0.0415	2865.3762	0.0000
6	5.855	3426920.25	438666.72	VV	1.0000e6	0.0415	2865.3762	0.0000
7	5.968	3218772.75	341699.28	VV	1.0000e6	0.0415	2865.3762	0.0000
8	6.257	3451021.25	473888.00	VV	1.0000e6	0.0415	2865.3762	0.0000
9	6.467	10240818.00	1.57e6	VV	1.0000e6	0.0415	2865.3762	0.0000
10	6.641	7768755.50	806131.63	VV	1.0000e6	0.0415	2865.3762	0.0000
11	6.917	5104424.50	494914.34	VV	1.0000e6	0.0415	2865.3762	0.0000
12	7.037	1727072.50	446303.16	VV	1.0000e6	0.0415	2865.3762	0.0000
13	7.197	9415960.00	1.18e6	VV	9.9999e5	0.0415	2865.3762	0.0000
14	7.316	7575671.00	1.00e6	VV	1.0000e6	0.0415	2865.3762	0.0000
15	7.524	7193273.50	1.26e6	VV	1.0000e6	0.0415	2865.3762	0.0000
16	7.608	11814770.00	2.49e6	VV	1.0000e6	0.0415	2865.3762	0.0000
17	7.776	16707932.00	1.45e6	VV	1.0000e6	0.0415	2865.3762	0.0000
18	8.017	6154261.00	1.06e6	VV	1.0000e6	0.0415	2865.3762	0.0000
19	8.156	6429088.00	984406.94	VV	1.0000e6	0.0415	2865.3762	0.0000
20	8.332	16334787.00	1.46e6	VV	1.0000e6	0.0415	2865.3762	0.0000
21	8.559	28916380.00	3.68e6	VV	1.0000e6	0.0415	2865.3762	0.0000
22	8.721	17283988.00	2.24e6	VV	9.9999e5	0.0415	2865.3762	0.0000
23	8.962	14451465.00	1.70e6	VV	1.0000e6	0.0415	2865.3762	0.0000
24	9.091	22200052.00	2.14e6	VV	1.0000e6	0.0415	2865.3762	0.0000
25	9.403	34395120.00	4.63e6	VV	1.0000e6	0.0415	2865.3762	0.0000
26	9.646	17650398.00	1.74e6	VV	1.0000e6	0.0415	2865.3762	0.0000
27	9.806	15268307.00	2.25e6	VV	1.0000e6	0.0415	2865.3762	0.0000
28	9.914	14894230.00	2.05e6	VV	1.0000e6	0.0415	2865.3762	0.0000
29	10.187	42923620.00	5.21e6	VV	1.0000e6	0.0415	2865.3762	0.0000
30	10.377	11475896.00	1.49e6	VV	1.0000e6	0.0415	2865.3762	0.0000
31	10.551	34941736.00	2.83e6	VV	1.0000e6	0.0415	2865.3762	0.0000
32	10.928	49630144.00	5.59e6	VV	1.0000e6	0.0415	2865.3762	0.0000
33	11.242	16713671.00	1.85e6	VV	1.0000e6	0.0415	2865.3762	0.0000
34	11.326	20641016.00	1.94e6	VV	1.0000e6	0.0415	2865.3762	0.0000
35	11.617	41580260.00	4.31e6	VV	1.0000e6	0.0415	2865.3762	0.0000
36	11.893	17985632.00	1.61e6	VV	1.0000e6	0.0415	2865.3762	0.0000
37	12.029	15002282.00	1.71e6	VV	1.0000e6	0.0415	2865.3762	0.0000
38	12.270	37078128.00	3.54e6	VV	1.0000e6	0.0415	2865.3762	0.0000
39	12.534	9678454.00	1.29e6	VV	9.9999e5	0.0415	2865.3762	0.0000
40	12.674	9476456.00	1.25e6	VV	1.0000e6	0.0415	2865.3762	0.0000
41	12.899	27313394.00	2.55e6	VV	1.0000e6	0.0415	2865.3762	0.0000
42	13.151	7483918.50	1.00e6	VV	1.0000e6	0.0415	2865.3762	0.0000
43	13.342	10322936.00	944305.25	VV	1.0000e6	0.0415	2865.3762	0.0000
44	13.501	12082565.00	1.64e6	VV	1.0000e6	0.0415	2865.3762	0.0000
45	13.713	5696896.00	620868.06	VV	1.0000e6	0.0415	2865.3762	0.0000
46	13.916	5659774.50	554309.50	VV	1.0000e6	0.0415	2865.3762	0.0000
47	14.081	7399296.00	960595.44	VV	1.0000e6	0.0415	2865.3762	0.0000
48	14.278	2650038.00	324791.41	VV	1.0000e6	0.0415	2865.3762	0.0000
49	14.418	2619730.00	267086.16	VV	1.0000e6	0.0415	2865.3762	0.0000
50	14.640	3173489.00	393838.00	VV	1.0000e6	0.0415	2865.3762	0.0000

51	14.842	1732446.25	122347.40	VV	1.0000e6	0.0415	2865.3762	0.0000
52	15.180	1634440.00	145133.98	VV	1.0000e6	0.0415	2865.3762	0.0000
53	15.692	1681713.75	339272.84	VB	1.0000e6	0.0415	2865.3762	0.0000
54	15.950	28535.16	5951.40	BB	1.0000e6	0.0415	2865.3762	0.0000
55	16.201	40994.38	11269.59	BB	1.0000e6	0.0415	2865.3762	0.0000
56	16.691	33685.16	5968.62	BB	1.0000e6	0.0415	2865.3762	0.0000
57	16.997	6097.81	1739.58	BV	1.0000e6	0.0415	2865.3762	0.0000
58	17.165	15712.34	3331.48	VV	1.0000e6	0.0415	2865.3762	0.0000
59	17.380	25560.16	3666.97	VB	1.0000e6	0.0415	2865.3762	0.0000
60	17.617	12060.00	2258.83	BB	1.0000e6	0.0415	2865.3762	0.0000
61	17.799	370.00	164.39	BB	1.0000e6	0.0415	2865.3762	0.0000
62	17.985	48745.00	6974.97	BE	1.0000e6	0.0415	2865.3762	0.0000
63	18.215	1330.00	319.81	EB	1.0000e6	0.0415	2865.3762	0.0000
64	18.549	94899.38	11671.38	BV	9.9999e5	0.0415	2865.3762	0.0000
65	18.728	26072.97	3467.31	VV	9.9999e5	0.0415	2865.3762	0.0000
66	18.871	27899.22	3133.89	VV	1.0000e6	0.0415	2865.3762	0.0000
67	19.004	8375.90	2201.70	VV	1.0000e6	0.0415	2865.3762	0.0000
68	19.141	68872.58	7996.33	VE	1.0000e6	0.0415	2865.3762	0.0000
69	19.378	2530.00	799.01	EB	1.0000e6	0.0415	2865.3762	0.0000

	6.89e8	8.00e7			2.8656		1.9771e5	0.0000

```
=====
END
=====
```

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__115.TX0

Chromatogram

Sample Name : 9406119-14MS

Sample #: KM ;S

Page 1 of 1

FileName : l:\data\tchrom\pest\varc\C___115.raw

Date : 06/15/94 13:49

Method : DIESEL.C.ins

Time of Injection: 06/15/94 13:14

Start Time : 1.00 min

End Time : 34.66 min

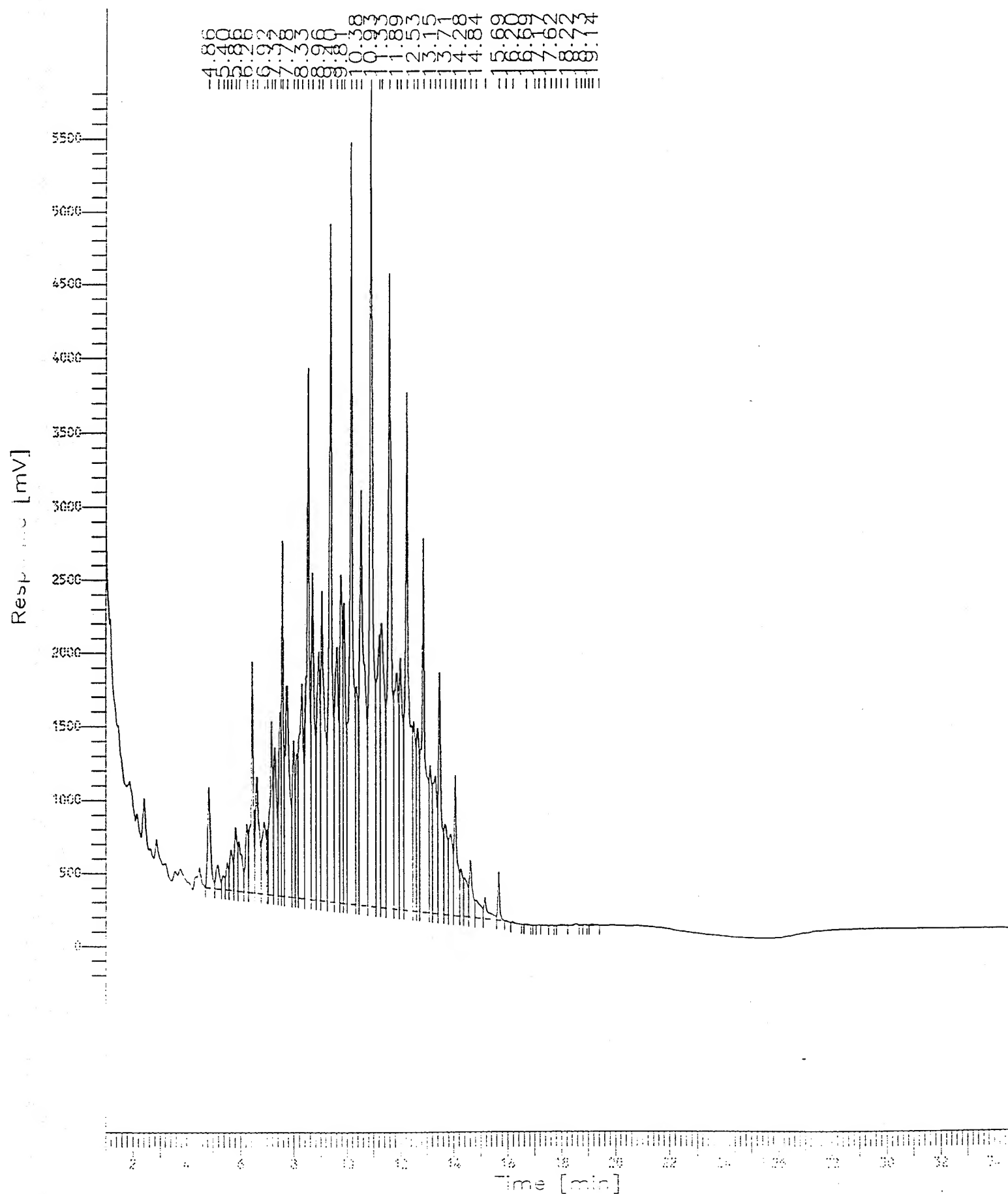
Low Point : -242.56 mV

High Point : 5835.01 mV

Scale Factor: 1

Plot Offset: -243 mV

Plot Scale: 6078 mV



Software Version: 3.2 <16C20>
Sample Name : 375 PPM
Sample Number: TC ;S
Operator : SEG
Time : 06/16/94 12:35
Study : DIESEL
Instrument : VARC
AutoSampler : NONE
Rack/Vial : 0/0
Channel : A A/D mV Range : 10000

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 12:00
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__128.raw
Result File : l:\data\tchrom\pest\varc\C__128.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul
Sample Amount : 1.0000
Area Reject : 100.00
Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.947	16265.00	16093.69	BB	1.0000e6	0.0415	302.8079	0.0000
2	5.784	212018.75	4942.54	BB	1.0000e6	0.0415	302.8079	0.0000
3	6.391	158990.63	18312.63	BV	1.0000e6	0.0415	302.8079	0.0000
4	6.525	493065.00	92257.23	VV	1.0000e6	0.0415	302.8079	0.0000
5	6.686	439924.38	64786.25	VB	9.9999e5	0.0415	302.8079	0.0000
6	6.966	60380.00	13343.31	BB	1.0000e6	0.0415	302.8079	0.0000
7	7.156	63176.56	13847.55	BV	9.9999e5	0.0415	302.8079	0.0000
8	7.343	793042.50	86278.39	VV	1.0000e6	0.0415	302.8079	0.0000
9	7.556	325765.31	58833.18	VV	1.0000e6	0.0415	302.8079	0.0000
0	7.652	908559.38	183748.50	VV	1.0000e6	0.0415	302.8079	0.0000
11	7.836	1194410.00	133511.09	VV	1.0000e6	0.0415	302.8079	0.0000
12	8.069	434354.38	62514.65	VV	1.0000e6	0.0415	302.8079	0.0000
13	8.163	224737.34	58954.90	VV	1.0000e6	0.0415	302.8079	0.0000
14	8.268	413955.00	79033.13	VV	1.0000e6	0.0415	302.8079	0.0000
15	8.371	832695.63	128558.32	VV	1.0000e6	0.0415	302.8079	0.0000
16	8.598	2228142.50	332557.03	VV	1.0000e6	0.0415	302.8079	0.0000
17	8.800	1816117.50	178050.39	VV	1.0000e6	0.0415	302.8079	0.0000
18	9.006	1325057.75	175921.28	VV	1.0000e6	0.0415	302.8079	0.0000
19	9.124	2278578.00	232572.14	VV	1.0000e6	0.0415	302.8079	0.0000
20	9.442	3135224.00	481216.75	VV	9.9999e5	0.0415	302.8079	0.0000
21	9.596	526525.44	135230.50	VV	1.0000e6	0.0415	302.8079	0.0000
22	9.711	1140351.25	150968.16	VV	9.9999e5	0.0415	302.8079	0.0000
23	9.848	1598671.88	246887.05	VV	1.0000e6	0.0415	302.8079	0.0000
24	9.948	1918008.75	206972.42	VV	1.0000e6	0.0415	302.8079	0.0000
25	10.223	4385449.50	587802.88	VV	1.0000e6	0.0415	302.8079	0.0000
26	10.425	1184549.50	154394.45	VV	1.0000e6	0.0415	302.8079	0.0000
27	10.584	3662395.00	320606.53	VV	1.0000e6	0.0415	302.8079	0.0000
28	10.966	6420236.00	686921.88	VV	1.0000e6	0.0415	302.8079	0.0000
29	11.298	1374929.25	206573.06	VV	9.9999e5	0.0415	302.8079	0.0000
30	11.368	2411569.25	206146.27	VV	9.9999e5	0.0415	302.8079	0.0000
31	11.657	4398090.00	511099.03	VV	1.0000e6	0.0415	302.8079	0.0000
32	11.930	1645519.63	174835.77	VV	1.0000e6	0.0415	302.8079	0.0000
33	12.064	1856457.50	173135.69	VV	1.0000e6	0.0415	302.8079	0.0000
34	12.314	3717475.50	409647.56	VV	1.0000e6	0.0415	302.8079	0.0000
35	12.587	1148760.13	138001.09	VV	1.0000e6	0.0415	302.8079	0.0000
36	12.727	1433711.88	132711.16	VV	1.0000e6	0.0415	302.8079	0.0000
37	12.944	2356361.25	298646.72	VV	1.0000e6	0.0415	302.8079	0.0000
38	13.193	688066.38	89089.35	VV	1.0000e6	0.0415	302.8079	0.0000
39	13.304	351978.44	89397.24	VV	9.9999e5	0.0415	302.8079	0.0000
40	13.378	741272.31	97545.50	VV	1.0000e6	0.0415	302.8079	0.0000
41	13.550	1262480.25	182408.45	VV	1.0000e6	0.0415	302.8079	0.0000
42	13.754	592413.44	56022.07	VV	1.0000e6	0.0415	302.8079	0.0000
43	13.961	381001.25	47769.66	VV	9.9999e5	0.0415	302.8079	0.0000
44	14.132	716111.06	103686.21	VV	1.0000e6	0.0415	302.8079	0.0000
45	14.324	349437.19	25414.84	VV	1.0000e6	0.0415	302.8079	0.0000
46	14.690	285264.69	40512.13	VB	9.9999e5	0.0415	302.8079	0.0000
47	15.228	57829.69	13981.43	BB	1.0000e6	0.0415	302.8079	0.0000
48	15.730	8696110.00	1.95e6	BB	1.0000e6	0.0415	302.8079	0.0000
49	16.242	12650.00	3258.35	BB	1.0000e6	0.0415	302.8079	0.0000
50	16.723	38744.69	4152.57	BB	1.0000e6	0.0415	302.8079	0.0000

At = 357.12
95%

51	17.179	1130.00	601.44	BB	1.0000e6	0.0415	302.8079	0.0000
52	17.430	665.00	1050.20	BB	1.0000e6	0.0415	302.8079	0.0000
53	18.041	22406.88	3636.67	BV	1.0000e6	0.0415	302.8079	0.0000
54	18.268	4779.14	936.58	VV	1.0000e6	0.0415	302.8079	0.0000
55	18.390	9131.02	1305.64	VV	1.0000e6	0.0415	302.8079	0.0000
56	18.612	109175.94	7175.39	VV	1.0000e6	0.0415	302.8079	0.0000
57	19.211	58901.88	5730.13	VB	1.0000e6	0.0415	302.8079	0.0000

72913056.00	9.88e6	2.3672	17260.0469	0.0001
-------------	--------	--------	------------	--------

=====
END
=====

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__128.TX0

Chromatogram

Sample Name : 375 PPM

Sample #: TC ;S

Page 1 of 1

FileName : l:\data\tchrom\pest\varc\C__128.raw

Date : 06/16/94 12:35

Method : DIESEL.C.ins

Time of Injection: 06/16/94 12:00

Start Time : 1.00 min

End Time : 34.66 min

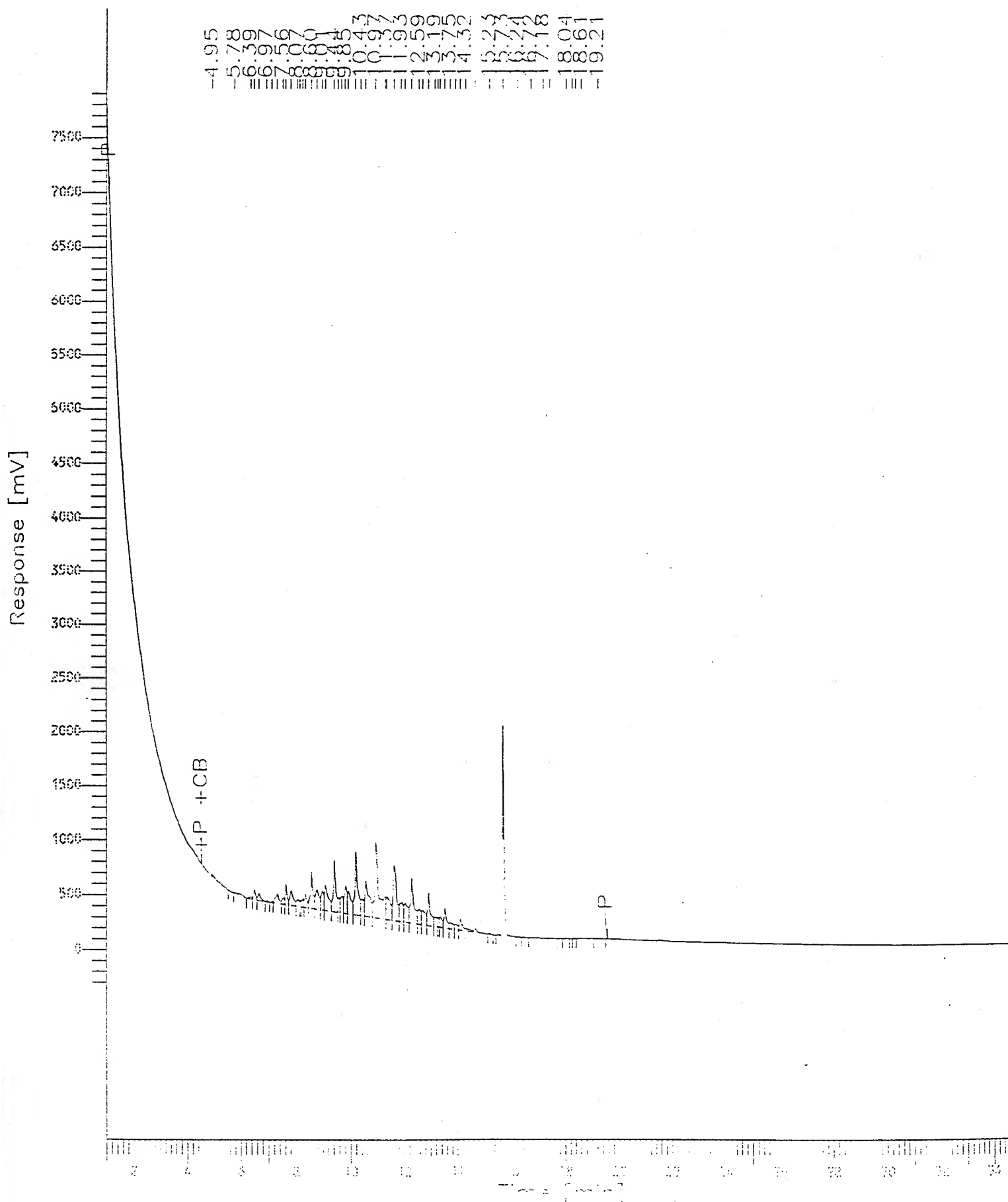
Low Point : -345.22 mV

High Point : 7949.78 mV

Scale Factor: 1

Plot Offset: -345 mV

Plot Scale: 8295 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-02B Time : 06/13/94 17:41
Sample Number: SC ;S Study : MODSD
Operator : SEG
Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 17:06
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__091.raw
Result File : l:\data\tchrom\pest\varc\C__091.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

=====

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.027	20720.00	13021.03	BB	1.0000e6	0.0415	13.2786	0.0000
2	7.972	3625.00	994.65	BB	1.0000e6	0.0415	13.2786	0.0000
3	8.211	11358.59	1602.77	BV	1.0000e6	0.0415	13.2786	0.0000
4	8.443	26757.03	3487.41	VV	1.0000e6	0.0415	13.2786	0.0000
5	8.805	753434.38	21177.51	VV	1.0000e6	0.0415	13.2786	0.0000
6	9.461	214045.63	10665.29	VV	1.0000e6	0.0415	13.2786	0.0000
7	10.256	40586.25	4138.13	VV	9.9999e5	0.0415	13.2786	0.0000
8	10.614	3894.96	1161.10	VV	1.0000e6	0.0415	13.2786	0.0000
9	10.769	31174.38	4383.70	VB	1.0000e6	0.0415	13.2786	0.0000
10	11.026	1189.38	536.21	BV	1.0000e6	0.0415	13.2786	0.0000
11	11.584	11040.47	3130.17	VB	1.0000e6	0.0415	13.2786	0.0000
12	11.752	3323.05	828.24	BV	1.0000e6	0.0415	13.2786	0.0000
13	11.889	11843.13	3444.43	VV	1.0000e6	0.0415	13.2786	0.0000
14	12.262	5334.38	730.53	VB	1.0000e6	0.0415	13.2786	0.0000
15	12.863	205591.25	18483.04	BV	1.0000e6	0.0415	13.2786	0.0000
16	13.610	4320.39	784.38	VV	1.0000e6	0.0415	13.2786	0.0000
17	13.786	13213.44	2287.32	VB	1.0000e6	0.0415	13.2786	0.0000
18	14.202	13220.00	1918.90	BB	1.0000e6	0.0415	13.2786	0.0000
19	14.628	6583.67	1340.43	BV	1.0000e6	0.0415	13.2786	0.0000
20	14.742	11951.25	1832.28	VB	1.0000e6	0.0415	13.2786	0.0000
21	14.944	2430.00	536.13	BB	9.9999e5	0.0415	13.2786	0.0000
22	15.275	27080.00	3113.27	BB	1.0000e6	0.0415	13.2786	0.0000
23	15.768	1505925.13	271216.69	BE	9.9999e5	0.0415	13.2786	0.0000
24	16.270	19740.00	2740.98	EB	1.0000e6	0.0415	13.2786	0.0000
25	16.771	10060.08	1383.11	BB	9.9999e5	0.0415	13.2786	0.0000
26	17.227	9583.83	1389.10	BV	1.0000e6	0.0415	13.2786	0.0000
27	17.360	35681.09	4857.10	VB	9.9999e5	0.0415	13.2786	0.0000
28	17.684	4370.00	816.17	BB	9.9999e5	0.0415	13.2786	0.0000
29	18.068	26137.19	2858.14	BV	1.0000e6	0.0415	13.2786	0.0000
30	18.330	13584.06	1676.35	VV	1.0000e6	0.0415	13.2786	0.0000
31	18.406	4815.53	1712.19	VV	1.0000e6	0.0415	13.2786	0.0000
32	18.624	69713.59	5961.93	VV	1.0000e6	0.0415	13.2786	0.0000
33	18.781	32851.48	3017.22	VV	1.0000e6	0.0415	13.2786	0.0000
34	19.230	42178.13	3595.82	VB	1.0000e6	0.0415	13.2786	0.0000
		3197356.50	400821.69			1.4120	451.4732	0.0011

115%
3.89 x 2/20
0.38 mg/kg
947.

=====

END

=====

Chromatogram

Sample Name : 9406119-02B

Sample #: SC ;S

Page 1 of 1

FileName : l:\data\tchrom\pest\varc\C__091.raw

Date : 06/13/94 17:41

Method : DIESEL.C.ins

Time of Injection: 06/13/94 17:06

Start Time : 1.00 min

End Time : 34.66 min

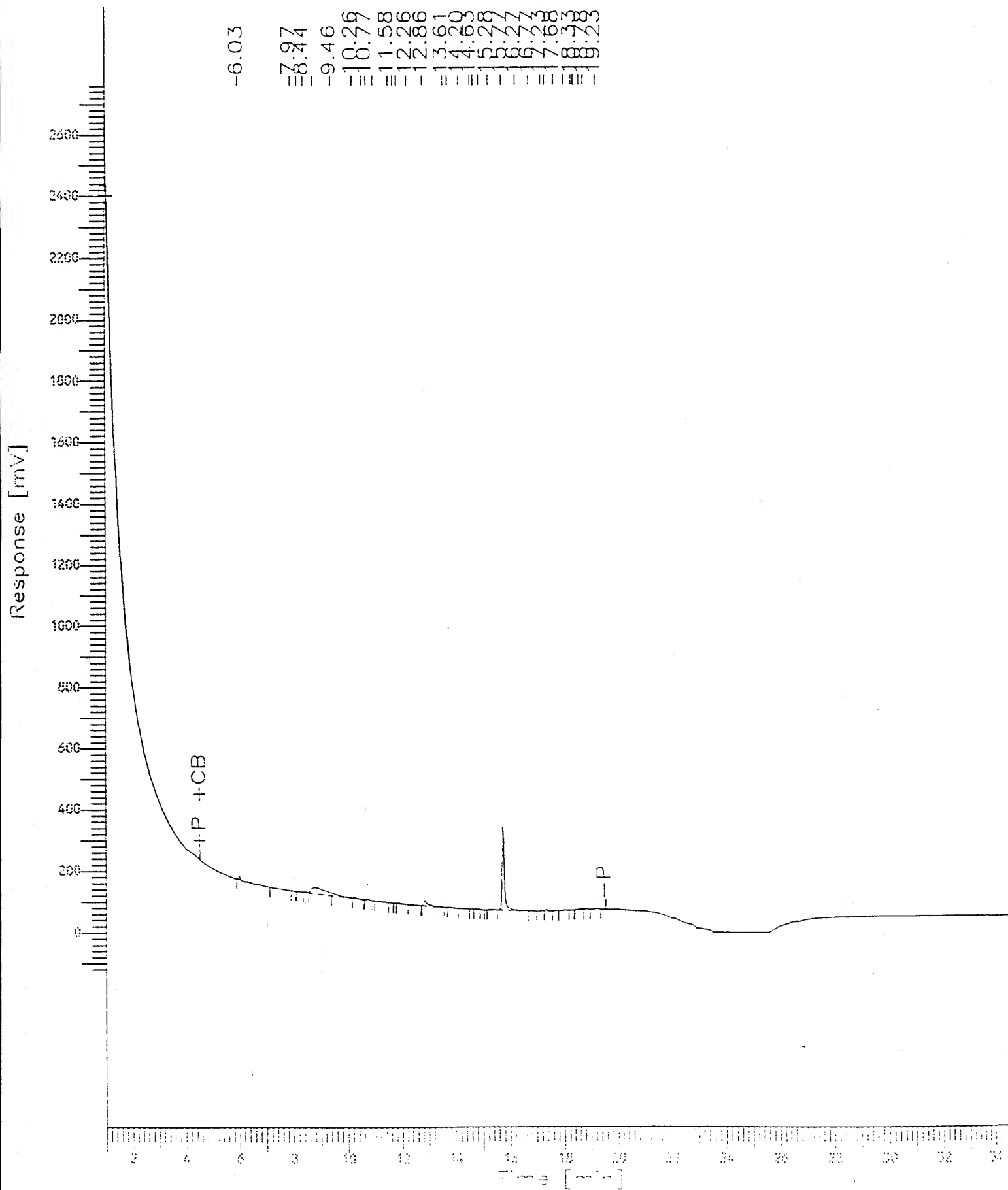
Low Point : -138.08 mV

High Point : 2761.78 mV

Scale Factor: 1

Plot Offset: -138 mV

Plot Scale: 2900 mV



Software Version: 3.2 <16C20>

Sample Name : 9406119-038

Sample Number: SC ;S

Operator : SEG

Time : 6/16/94 09:13 AM

Study : MOOSD

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/16/94 06:51 AM

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__138.raw

Result File : C:\WINDOWS\TEMP\rst3904.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : <none>

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.944	203371.25	6417.37	BB	9.9999e5	0.0415	2866.8191	0.0000
2	7.346	15820.31	3630.03	BB	9.9999e5	0.0415	2866.8191	0.0000
3	7.680	21247.50	2723.32	BV	1.0000e6	0.0415	2866.8191	0.0000
4	7.947	8782.50	2667.07	VB	9.9999e5	0.0415	2866.8191	0.0000
5	8.113	3035.00	1156.78	BB	1.0000e6	0.0415	2866.8191	0.0000
6	8.351	486575.00	65856.11	BB	1.0000e6	0.0415	2866.8191	0.0000
7	8.934	289118.75	-15163.64	BV	1.0000e6	0.0415	2866.8191	0.0000
8	9.451	45201.88	12445.64	VV	1.0000e6	0.0415	2866.8191	0.0000
9	9.861	117753.75	21555.59	VV	1.0000e6	0.0415	2866.8191	0.0000
10	9.952	96778.13	13524.04	VV	1.0000e6	0.0415	2866.8191	0.0000
11	10.234	683825.94	61430.07	VV	1.0000e6	0.0415	2866.8191	0.0000
12	10.488	258275.31	39876.00	VV	1.0000e6	0.0415	2866.8191	0.0000
13	10.585	516204.69	60813.63	VV	9.9999e5	0.0415	2866.8191	0.0000
14	10.736	453645.31	59140.16	VV	1.0000e6	0.0415	2866.8191	0.0000
15	10.980	1529837.50	135053.58	VV	1.0000e6	0.0415	2866.8191	0.0000
16	11.538	8961845.00	585966.06	VV	9.9999e5	0.0415	2866.8191	0.0000
17	11.935	2880380.25	249959.13	VV	1.0000e6	0.0415	2866.8191	0.0000
18	12.448	10796190.00	471222.53	VV	1.0000e6	0.0415	2866.8191	0.0000
19	12.747	8377763.50	571824.13	VV	1.0000e6	0.0415	2866.8191	0.0000
20	12.953	6441212.50	621689.00	VV	1.0000e6	0.0415	2866.8191	0.0000
21	13.310	25580404.00	1.73e6	VV	1.0000e6	0.0415	2866.8191	0.0000
22	13.620	18985848.00	1.75e6	VV	1.0000e6	0.0415	2866.8191	0.0000
23	13.765	4511071.00	1.13e6	VV	9.9999e5	0.0415	2866.8191	0.0000
24	14.004	17928910.00	1.25e6	VV	1.0000e6	0.0415	2866.8191	0.0000
25	14.235	17535054.00	1.41e6	VV	1.0000e6	0.0415	2866.8191	0.0000
26	14.365	13301834.00	1.51e6	VV	1.0000e6	0.0415	2866.8191	0.0000
27	14.556	16877844.00	1.56e6	VV	1.0000e6	0.0415	2866.8191	0.0000
28	14.786	20768882.00	1.63e6	VV	9.9999e5	0.0415	2866.8191	0.0000
29	14.968	16845532.00	1.71e6	VV	1.0000e6	0.0415	2866.8191	0.0000
30	15.216	28620664.00	1.88e6	VV	1.0000e6	0.0415	2866.8191	0.0000
31	15.285	9189227.00	1.86e6	VV	1.0000e6	0.0415	2866.8191	0.0000
32	15.551	41590124.00	2.18e6	VV	1.0000e6	0.0415	2866.8191	0.0000
33	15.733	24043600.00	2.22e6	VV	1.0000e6	0.0415	2866.8191	0.0000
34	16.031	27347374.00	1.98e6	VV	1.0000e6	0.0415	2866.8191	0.0000
35	16.152	5877272.00	1.96e6	VV	1.0000e6	0.0415	2866.8191	0.0000
36	16.270	19946696.00	2.01e6	VV	1.0000e6	0.0415	2866.8191	0.0000
37	16.390	8009258.50	2.01e6	VV	1.0000e6	0.0415	2866.8191	0.0000
38	16.454	18362190.00	2.06e6	VV	1.0000e6	0.0415	2866.8191	0.0000
39	16.620	16266244.00	2.04e6	VV	9.9999e5	0.0415	2866.8191	0.0000
40	16.713	6065372.50	2.03e6	VV	1.0000e6	0.0415	2866.8191	0.0000
41	16.888	28762140.00	2.10e6	VV	1.0000e6	0.0415	2866.8191	0.0000
42	17.071	26664730.00	2.39e6	VV	1.0000e6	0.0415	2866.8191	0.0000
43	17.220	15223191.00	2.21e6	VV	1.0000e6	0.0415	2866.8191	0.0000
44	17.386	54565904.00	2.35e6	VV	1.0000e6	0.0415	2866.8191	0.0000
45	17.730	40886148.00	2.03e6	VV	1.0000e6	0.0415	2866.8191	0.0000
46	18.079	9231989.00	1.87e6	VV	1.0000e6	0.0415	2866.8191	0.0000
47	18.256	44658808.00	1.86e6	VV	9.9999e5	0.0415	2866.8191	0.0000
48	18.601	38775860.00	1.56e6	VV	1.0000e6	0.0415	2866.8191	0.0000
49	19.122	31691702.00	1.25e6	VB	1.0000e6	0.0415	2866.8191	0.0000

6.90e8

5.66e7

2.0350

1.4047e5

0.0000

=====

END

=====

Software Version: 3.2 <16C20>

Sample Name : 9406119-04B

Sample Number: SC ;S

Operator : SEG

Time : 06/13/94 19:03

Study : MCDSD

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 18:28

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__093.raw

Result File : l:\data\tchrom\pest\varc\C__093.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.INS

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.PRC

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.SMP

Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.SEQ

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.029	242235.00	9156.83	BB	1.0000e6	0.0415	25.0325	0.0000
2	7.981	21500.00	1539.17	BV	9.9999e5	0.0415	25.0325	0.0000
3	8.213	59105.63	3683.64	VV	1.0000e6	0.0415	25.0325	0.0000
4	8.445	99174.84	6784.23	VV	1.0000e6	0.0415	25.0325	0.0000
5	8.834	1255813.75	26675.37	VB	1.0000e6	0.0415	25.0325	0.0000
6	10.265	17620.08	3099.56	BB	1.0000e6	0.0415	25.0325	0.0000
7	10.714	66019.53	2163.11	BB	1.0000e6	0.0415	25.0325	0.0000
8	11.581	4900.00	1767.97	BB	1.0000e6	0.0415	25.0325	0.0000
9	11.899	10435.63	3459.31	BB	1.0000e6	0.0415	25.0325	0.0000
10	12.894	24890.00	5500.27	BB	1.0000e6	0.0415	25.0325	0.0000
11	14.349	1272589.38	21062.97	BV	1.0000e6	0.0415	25.0325	0.0000
12	14.642	347729.91	17264.12	VV	1.0000e6	0.0415	25.0325	0.0000
13	14.785	146082.66	14964.34	VV	1.0000e6	0.0415	25.0325	0.0000
14	14.985	110889.84	10493.73	VV	1.0000e6	0.0415	25.0325	0.0000
15	15.160	85969.45	7062.88	VV	1.0000e6	0.0415	25.0325	0.0000
16	15.301	57201.91	6757.95	VV	1.0000e6	0.0415	25.0325	0.0000
17	15.400	9415.12	3009.60	VV	1.0000e6	0.0415	25.0325	0.0000
18	15.476	8816.09	1501.03	VB	9.9999e5	0.0415	25.0325	0.0000
19	15.784	1481865.75	274148.41	BV	1.0000e6	0.0415	25.0325	0.0000
20	16.041	369473.44	58672.33	VE	1.0000e6	0.0415	25.0325	0.0000
21	16.300	35570.00	4046.02	EV	1.0000e6	0.0415	25.0325	0.0000
22	16.585	2335.00	765.93	VV	9.9999e5	0.0415	25.0325	0.0000
23	16.775	36885.94	4852.97	VB	1.0000e6	0.0415	25.0325	0.0000
24	17.084	1980.00	495.43	BB	1.0000e6	0.0415	25.0325	0.0000
25	17.262	10833.28	2146.45	BV	1.0000e6	0.0415	25.0325	0.0000
26	17.386	21881.70	2911.80	VE	1.0000e6	0.0415	25.0325	0.0000
27	17.579	320.00	210.27	EB	1.0000e6	0.0415	25.0325	0.0000
28	17.704	11190.31	1664.07	BV	9.9999e5	0.0415	25.0325	0.0000
29	18.097	28683.91	3037.02	VV	1.0000e6	0.0415	25.0325	0.0000
30	18.646	104811.56	6492.85	VV	1.0000e6	0.0415	25.0325	0.0000
31	18.819	27340.31	3082.94	VV	9.9999e5	0.0415	25.0325	0.0000
32	18.977	18963.83	2385.15	VV	1.0000e6	0.0415	25.0325	0.0000
33	19.258	35035.08	3894.85	VB	1.0000e6	0.0415	25.0325	0.0000
		6027560.00	514752.63			1.3705	826.0714	0.0006

END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__093.TXT

Chromatogram

Sample Name : 9406119-04B

FileName : l:\data\tchrom\pest\varc\C__093.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -138 mV

Sample #: SC ;S

Date : 06/13/94 19:03

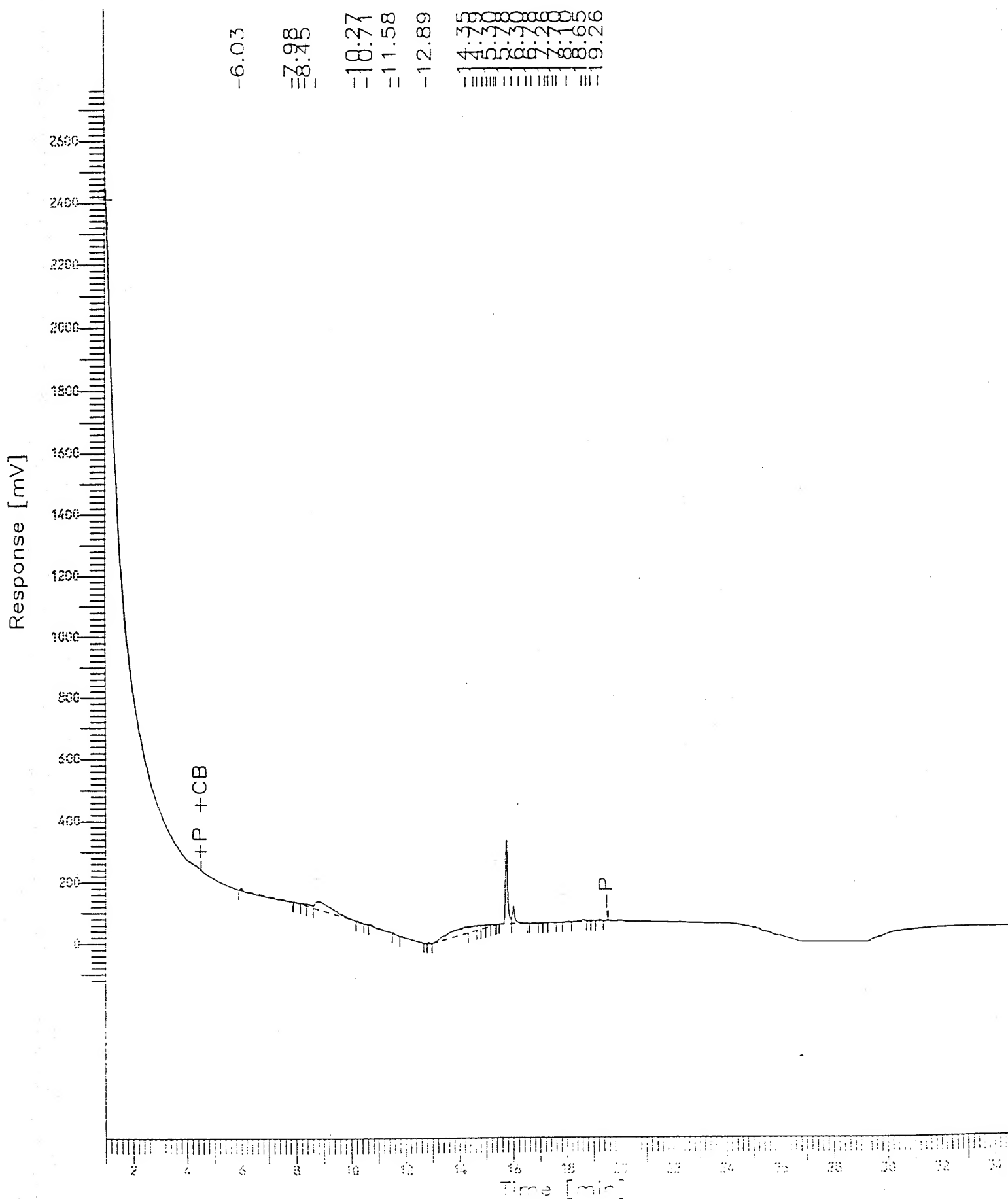
Time of Injection: 06/13/94 18:28

Low Point : -138.40 mV

Plot Scale: 2907 mV

Page 1 of 1

High Point : 2768.17 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-05B Time : 06/16/94 06:45
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 06:10
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__137.raw
Result File : l:\data\tchrom\pest\varc\C__137.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.938	22769.69	5918.96	BB	1.0000e6	0.0415	161.0492	0.0000
2	8.363	868379.38	63293.98	BE	1.0000e6	0.0415	161.0492	0.0000
3	9.153	98670.00	9692.14	EV	1.0000e6	0.0415	161.0492	0.0000
4	9.434	87200.00	7650.87	VB	1.0000e6	0.0415	161.0492	0.0000
5	9.843	12239.69	1446.72	BB	1.0000e6	0.0415	161.0492	0.0000
6	10.263	80777.50	8633.71	BV	9.9999e5	0.0415	161.0492	0.0000
7	10.582	26407.03	3180.29	VV	1.0000e6	0.0415	161.0492	0.0000
8	10.731	13305.31	3741.82	VB	9.9999e5	0.0415	161.0492	0.0000
9	10.983	59672.97	12115.43	BV	1.0000e6	0.0415	161.0492	0.0000
10	11.132	25893.44	3314.20	VV	1.0000e6	0.0415	161.0492	0.0000
11	11.318	13080.00	2675.48	VV	1.0000e6	0.0415	161.0492	0.0000
12	11.378	15583.75	3000.36	VB	1.0000e6	0.0415	161.0492	0.0000
13	11.654	332664.38	35098.41	BV	1.0000e6	0.0415	161.0492	0.0000
14	11.858	121417.81	13390.94	VV	1.0000e6	0.0415	161.0492	0.0000
15	12.099	53927.81	8214.47	VB	1.0000e6	0.0415	161.0492	0.0000
16	12.463	504055.00	56345.83	BV	9.9999e5	0.0415	161.0492	0.0000
17	12.745	237435.63	27694.25	VV	1.0000e6	0.0415	161.0492	0.0000
18	12.945	90659.53	15889.54	VV	1.0000e6	0.0415	161.0492	0.0000
19	13.317	3320297.50	601675.31	VV	1.0000e6	0.0415	161.0492	0.0000
20	13.623	3385373.00	540502.81	VE	9.9999e5	0.0415	161.0492	0.0000
21	14.089	842610.00	70716.28	EV	1.0000e6	0.0415	161.0492	0.0000
22	14.253	726328.13	84687.43	VV	1.0000e6	0.0415	161.0492	0.0000
23	14.369	663018.56	96434.88	VV	9.9999e5	0.0415	161.0492	0.0000
24	14.484	922894.06	75440.34	VV	1.0000e6	0.0415	161.0492	0.0000
25	14.761	223852.19	38785.28	VV	1.0000e6	0.0415	161.0492	0.0000
26	15.216	2303777.50	121696.38	VV	1.0000e6	0.0415	161.0492	0.0000
27	15.547	2529927.75	267508.75	VV	1.0000e6	0.0415	161.0492	0.0000
28	15.730	2463779.25	412581.63	VV	1.0000e6	0.0415	161.0492	0.0000
29	15.880	447894.69	92159.37	VV	1.0000e6	0.0415	161.0492	0.0000
30	15.986	994749.38	114843.91	VV	1.0000e6	0.0415	161.0492	0.0000
31	16.236	882835.00	99981.71	VV	1.0000e6	0.0415	161.0492	0.0000
32	16.316	1797394.63	103534.55	VV	1.0000e6	0.0415	161.0492	0.0000
33	16.715	711522.63	76565.35	VV	1.0000e6	0.0415	161.0492	0.0000
34	16.895	586316.25	79288.16	VV	1.0000e6	0.0415	161.0492	0.0000
35	17.077	3259156.25	278378.66	VV	1.0000e6	0.0415	161.0492	0.0000
36	17.383	2005205.63	254419.64	VV	1.0000e6	0.0415	161.0492	0.0000
37	17.480	1178063.75	203964.69	VV	1.0000e6	0.0415	161.0492	0.0000
38	17.598	1349964.63	138030.22	VV	1.0000e6	0.0415	161.0492	0.0000
39	17.831	550271.38	84572.18	VV	1.0000e6	0.0415	161.0492	0.0000
40	17.958	560457.00	72764.59	VV	1.0000e6	0.0415	161.0492	0.0000
41	18.113	592353.44	68653.92	VV	1.0000e6	0.0415	161.0492	0.0000
42	18.260	753367.19	74003.49	VV	1.0000e6	0.0415	161.0492	0.0000
43	18.489	403674.34	50580.95	VV	1.0000e6	0.0415	161.0492	0.0000
44	18.619	392094.38	47192.97	VV	1.0000e6	0.0415	161.0492	0.0000
45	18.872	1208190.00	90239.58	VV	1.0000e6	0.0415	161.0492	0.0000
46	19.145	930569.38	98787.81	VV	1.0000e6	0.0415	161.0492	0.0000
47	19.390	128419.06	20079.44	VB	1.0000e6	0.0415	161.0492	0.0000
		38778996.00	4.63e6			1.9519	161.0492	0.0001

=====
END
=====

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__137.TX0

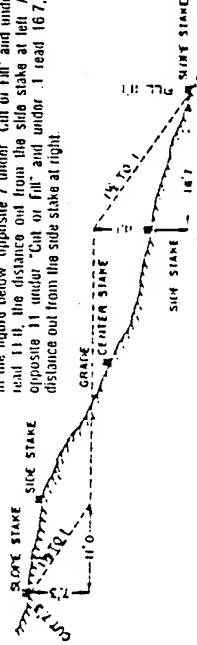
APPENDIX G

FIELD NOTES

THIS PAGE INTENTIONALLY LEFT BLANK

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1 1/2 to 1.
In the figure below, opposite 7 under "Cut or Fill" and under 3
read 11.4, the distance out from the side stake at left. Also,
opposite 11 under "Cut or Fill" and under 1 read 16.7, the
distance out from the side stake at right.

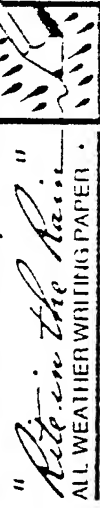


Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	1	2	3	4	5	6	7	8	9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

OpTech Phone Calling Card No.

1-800-950-1111- O - (AL) NUM - ~~52-375~~

~~52-375~~ Craig Donnelly 452-3751 (H)



532 - 731-9328-3023

Name EARL E PARKER

OPTECH

Address 4100 NW Loop 410 ST.230

San Antonio, Tx 78229

Phone (210) 731-0000

Project ZANESVILLE ANG5

1308-191

PAHA 90-91-D-0002/0024

"Rite in the Rain"—a unique all weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J.L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

FE0-Ex # 1342-6486-1

1040	<p>Begin to check on equipment in the boxes and prepare last minute coordination.</p> <p>Call Mark Escobar at OptTech to confirm delivery of Ice chests for samples.</p> <p>Ice chests will be delivered tomorrow morning.</p>	<p>1215 Break for lunch.</p>
1110	<p>Call Mr. Jones (JEDI). Give him location of Station, and confirm last minute coordinations. Dillers will be here tomorrow around 9 AM.</p>	<p>1300 Return to Zanesville Station to decon brass sleeves, end caps, split spoons. Check operations of field GC and PID.</p> <p>Joe Byrd decons sleeves, caps, and spoons.</p> <p>Louis Ebbert sets up and calibrates field GC. Louis practices on GC. Calibrator and runs Analysis.</p> <p>Earl Pytko assists J.B. and L.J. with tasks.</p>
1145	<p>Depart Station to pick up zero-grade Air for field GC.</p>	<p>1615 Complete deconning and checking out equipment. Everything looks fine. Prepare to depart site for the day.</p>
1155	<p>Arrive at Valley Welding Supply to pick up Zero Air. Check to insure it will fit on our regulator/ high pressure fill head.</p>	<p>1625 Depart Station for the day.</p>

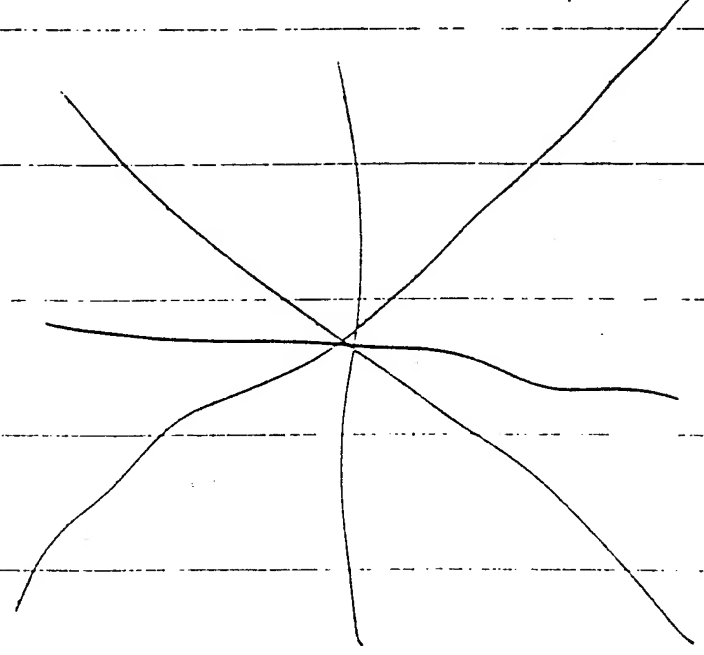
DAY 2

2 June 94

THURSDAY

2000 BEGIN to prepare sample packages for soil sampling. Cut teflon and aluminum foil squares, pre fill out labels and label zip-lock bags for brass sleeves and field GC work.

2330 Complete work for the day.



0730 E.P., J.B. and L.I. Arrive at the station w/ ice for soil sample preservation

Begin to prepare for daily operations.

J.B. prepares decan area and L.I. gets field GC fired up and calibrated.

0900 Call Matt Alexander to give him a situation and status report. Fax daily progress report from yesterday.

0910 Call Saul Alvarez (Bio-environmental engineer) at Rickenback ANCS in Columbus to give him a brief description of the job to be done here. Agreed to inform him of unusual situations and will provide field screening results.

Earl E. Paul, Jr. 6/1/94 (10.5 hr)

0920

All set up. Waiting for drillers to arrive at the site.

WEATHER:

Partly cloudy and mild.
Temp: 65° Hi: Mid 70's.
Winds are light out of the Northwest at 5 to 10 mph.
Presently is calm.

1005

FED-EX Arrives at the Station w/ Ice Chest and Chain of Custody forms for Soil Samples.

1030

Drillers arrive at the site. Introductions and brief walk through of AOC's.
Drillers begin to set up in the area. Once set up will conduct safety briefing prior to drilling at AOC-A.

1050

Safety Meeting
Earl Parker } opTech
Joe Byrd
Louis Ibarra

Rob Capeland } JEOI
Ragor Groves
Johnny Moore

Discuss site history of each AOC and what contaminants should be expected.
Underground utility locations in the area.
Emergency situations, eyewash location, evacuation procedures and hospital location.

Drillers set up over AOC A at A-004 BH. Will be drilled to water or bedrock.

Calibrate PID w/ 100 PPM Isobutylene
Obtain 004 BH Int 1
0.0 - 1.5' BLS Recovery: 100%
SPT 14 0.0 - 0.5' BLS
9 0.5' - 1.0' BLS
6 1.0' - 1.5' BLS

PID: Opening 0.0 PPM
ATHA Headspace: 0.0 PPM

Sand and soil. Mostly a silty, clay loam. Lt. Brown and slightly moist. Mostly silty loam and some organic particles.

1113 Interval 5.0-6.5' BLS Recovery: 90%
 SPT 4 5.0'-5.5' BLS
 9 5.5'-6.0' BLS
 11 6.0'-6.5' BLS

PID Opening: 0.0 PPM
 ATHA: 4.8 PPM

Sand, silt loam. Mostly a brown, very fine and cohesive sandy/silty loam. Clay and silt. cohesive. Moist.

1130 Interval 10.0-11.5' BLS Recovery: 90%
 SPT 2 10.0'-10.5'
 12 10.5'-11.0'
 35 11.0'-11.5'

PID Opening: 0.0 PPM
 ATHA: PID Not Functioning

Top is sand, silt. clay loam w/ slight moisture, cohesive. Lt Brown. At 10.8' BLS sharp contact to sand. Mostly a medium sand, mottled, lgt. brown to tan sand. Clean sand w/ little silt.

1148

Drill to 14' BLS when drillers encounter difficulty in drilling. Well attach a spoon to drive.

Interval 14.0-15.5' BLS
 SPT 50 14.0'-14.5'

50 Blow counts indicates formal refusal. Tight, mottled sand in the spoon. Sandstone / shale at the bottom of the hole at 14.2' BLS.

1200

Drillers break for lunch. PID is not functioning. Perform trouble shooting on PID as per manual. No results.

1215

Call HAZCO on PID. Confirm we have done what we can do in the field. They will send us another one first thing in the morning.

1220

Call John Morris in San Antonio.
Talk about PID not functioning.
We will use the LEL to monitor
drilling health and safety issues,
and will use field GC (hr. BTEX)
for selection criteria for sample
selection for the lab.

1300

Drillers return from lunch. Set up
over A-005 BH.

1305

A-005 BH Interval 0.0'-1.5'

No PID.

Recovery: 90%

SPT

12 0.0'-0.5'

14 0.5'-1.0'

10 1.0'-1.5'

Soil and silty, clay loam. Mostly
a lt. brown, cohesive, slightly moist
clay, silt loam.

1318

A-005 BH Int 5.0'-6.5' BCS

No PID

Recovery: 100%

INT 2

SPT

4

5.0'-5.5'

8

5.5'-6.0'

11

6.0'-6.5'

Lt. Brown clay loam w/ small angular
black quartz fragments. Little sand
mostly clay, silt loam w/ quartz.

A 1330

A-005 BH

Int 10.0'-11.5' BCS

No PID

Not
Selected
Recovery: 100%

SPT

14

10.0'-10.5'

16

10.5'-11.0'

18

11.0'-11.5'

Lt. Brown silt loam becoming more
sandy. At 11.0' sharp contact w/
clean, tan to white, mottled, sand.

1340

Complete drilling at A-005 BH
Moving to A-006 BH

1346

begin to drill at A-006 BH

A-006 BH Int 0.0'-1.5' BCS

No PID

Recovery: 100%

INT 1

SPT: 8 0.0' - 0.5'
10 0.5' - 1.0'
9 1.0' - 1.5'

Soil to clay, silt loam w/ small black shale fragments w/ black quartz present. Mostly a clay, silt loam.

1355 A-006 BH 5.0' - 6.5' BLS
SPT: 6 5.0' - 5.5' Rec: 95%
10 5.5' - 6.0'
10 6.0' - 6.5'

Not
SELECTED

Clay to silt loam, brown, slightly moist, very cohesive. Black shale and some quartz fragments.

1410 A-006 BH 10.0' - 11.5' BLS
SPT: 6 10.0' - 10.5' Rec: 100%
12 10.5' - 11.0'
23 11.0' - 11.5'

INT 2

Clay to silt loam. Lt brown, cohesive and slightly moist. Contains fewer black shale fragments, quartz. Contact to sand to clean sand at

1415

Complete drilling at A-006 BH. Drillers performing maintenance on SPT hammer.

Moving drilling rig over A-007 BH while performing maintenance on hammer.

1450 Begin to drill at A-007-BH.
A-007 BH 0.0' - 1.8' BLS
SPT: 5 0.0' - 0.5' Rec: 100%
10 0.5' - 1.0'
17 1.0' - 1.5'

INT 1

Soil to dry clay loam mostly lt. tan dry, very cohesive and hard clay loam. few rock fragments

1507 A-007 BH 5.0' - 6.5' BLS
SPT: 4 5.0' - 5.5'
8 5.5' - 6.0'
13 6.0' - 6.5'

INT 2

Recovery: 100%

lt. Brown clay and silt loam with black shale and quartz fragments. Mostly a slightly moist loam, clay loam.

1519 A-007 BH 10.0'-11.5' BLS
SPT: 5 10.0-10.5'
10 10.5-11.0'
8 11.0-11.5'

Recovery: 100%

Brown to tan silty, clay loam. Some black shale and quartz fragment w/ sand contact at 11.3' BLS. Mostly a tan to white mottled sand. Slightly moist to dry sand.

1540 Complete drilling at A-007 BH
Move to A-003 BH

1545 begin to drill at A-003 BH
A-003 BH Int 0.0'-1.5' BLS
SPT 10 0.0-0.5'
9 0.5'-1.0'
5 1.0'-1.5'

Recovery: 100%

1555
Int 2

A-003 BH Int 5.0-6.5' BLS
SPT 8 5.0-6.5.5
10 6.5.5-6.0
15 6.0-6.5

Recovery: 100%

Clay and silt loam w/ few sand grains. Brown and moist, very cohesive. Some rock and shale fragments. Mostly a clay loam.

1605
Not Selected

A-003 BH Int 10.0'-11.5' BLS
SPT 4 10.0-10.5'
12 10.5-11.0'
23 11.0-11.5'

Recovery: 100%

Clay and silt loam w/ few shale and quartz fragments. Lt. Brown and moist. Very cohesive. Grading to a sand at 11.3' BLS. Then mostly tan to lgt. tan sand.

1613 Complete drilling at A-003 BH.
Moving to A-001 BH

1620 → BEGIN to drill AT A-001 BH.
A-001 BH Interval 0.0-1.5' BCS

INT 1
SPT 9 0.0-0.5'
7 0.5-1.0'
5 1.0-1.5'

Recovery: 100 %
Soil and Brown to Lt tan silty
to clay loam. Rock fragments of
shale and quartz. Few gravel.
Mostly clay loam, dry cohesive

1628 → A-001 BH Interval 5.0-5.5' BCS

SPT 5 5.0-5.5'
10 5.5-6.0'
11 6.0-6.5'

Recovery: 100 %
Silt and clay loam with few
sand particles. Some small angular
rock fragments. Mostly a clay
and silt loam and small, angular
rock fragments. Moist, cohesive.

1635 →

NOT
SELECTED

A-001 BH Interval 10.0-11.5' BCS

SPT 5 10.0-10.5'
12 10.5-11.0'
16 11.0-11.5'

Recovery: 100 %
Brown silt and clay loam, mostly
a clay/silt. w/ fine sand and
black shale and quartz fragments.
Contact to sand at 10.5' BCS. Sand
is molled, tan to white and moist.

1645 Complete drilling at A-001 BH
Move to A-002 BH

1655 → A-002 BH 0.0-1.5' BCS

SPT 18 0.0-0.5'
9 0.5-1.0'
5 1.0-1.5'

Recovery: 100 %
Soil and silt to clay loam.
Mostly dry, cohesive, and
lt brown to tan. Contains few
rock fragments.

INT 1

1708 A-002 BH 5.0-6.5' BCS
 SPT 5 5.0-5.5'
 9 5.5-6.0'
 11 6.0-6.5'

Recovery: 100%
 Silt and clay loam. Mostly silty
 w/ few sand grains. Slightly mottled,
 moist and cohesive. Some small
 shale and quartz fragments but
 mostly a silty loam.

1715 A-002 BH 10.0-11.5'
 SPT 5 10.0-10.5'
 11 10.5-11.0'
 19 11.0-11.5'

Recovery: 100%
 Silt and clay loam w/ contact
 with brown to tan sand, mottled
 and slightly moist. Sand contact
 at 10.5' BCS. sand grades from
 brown and mottled pt contact
 to tan to white, becoming
 increasingly hard.

1725 Complete drilling at A-002BH
 and conclude drilling for the day.

Drillers have been grouting
 holes throughout the day and
 are now completing grouting
 at A-001 BH and A-002 BH.

Will cement plugs at surface
 tomorrow.

Drillers are demobilizing and preparing
 equipment for the night.

1725 Drillers depart the Site. Going to
 pick up a few supplies for
 tomorrow.

1735 J.B. and E.P. begin site clean-up.

Dump decon water in decon
 water drum.

L.I. running final calibration and
 air blank on field GC.

General Site Cleanup

DAY 3

3 JUNE 94

FRIDAY

1745 E.P. begins to prepare Chem of Custody for Soil samples.

1800 Depart Station for FED-EX office to deliver soil samples.

1820 E.P. J.B. and L.I. Arrive at FED-EX office and ship soil samples.

1840 Arrive back at hotel.

Phoned John Morris in San Antonio. Informed him of our progress and that since groundwater was not encountered above bedrock, optional activities will not be performed. Field activities at the site will be completed tomorrow. Will contact Matt Alexander to inform ANSARC/CEUR PM of progress.

Earl E. Lantz 6/2/94 (11 hrs)

0700 E.P., J.B., L.I. Arrive at HL site to prepare for operations.

Begin to set up decon station for sampling at AOC B.

0735 Drillers Arrive at the site. Begin to set up for days drilling.

0740 J.B. Arranges for shipping service to pick up equipment box on Monday.

0740 Safety Briefing
 Earl Parker
 Rob Copeland } JEOI
 Roger Groves }
 Johnny Moore }
 Joe Byrd } OPTech
 Louis Ibarra }
 Talk about hazards around AOC-B.
 Review concerns. Talk about site contamination.

WEATHER: Clear to Partly Cloudy
mild and breezy. Temp: 65°
Hi - low to mid 70's. Sunny to
partly cloudy. Winds out of the
west, northwest at 10-15 mph.

Drillers prepare to drill. Set up
over B-003 BH first.

0810 Set up over B-003 BH to
drill to bedrock/groundwater.

0815 B-003 BH 0.0 - 1.5' BLS
* INTERVAL 1
SPT 29 0.0 - 0.5'
15 0.5 - 1.0'
8 1.0' - 1.5'

No PID.

Recovery: 100%

Hard, dry, silt, clay loam w/
some gravel at top. Small
shale and quartz fragments in
matrix. Mostly silt/clay loam.
Mostly dry, cohesive.

0825

B-003 BH

* INTERVAL 2

SPT 6 5.0' - 5.5'
7 5.5' - 6.0'
12 6.0' - 6.5'

Recovery: 100%

Brown silt, clay loam w/ sand
stringers and slight mottling.
Few small shale fragments. Moist,
cohesive.

0831

B-003 BH

SPT 5

10.0' - 11.5' BLS
10.0' - 10.5'
10.5' - 11.0'
11.0' - 11.5'

Recovery: 100%

Brown silt, clay loam to a brown
sand to a tan to lgt brown
to white sand at 11.0' BLS. Mostly
a clean sand, moist, and very
cohesive.

Will continue to drill this
hole till bedrock and check
for groundwater.

0838 Drill to approx. 14' BLS when Auger drilling became difficult. Loading up spoon for sample.

0840 B-003 BH 14.0' - 15.5' BLS
 SPT 33 14.0 - 14.5'
 34 14.5 - 15.0'
 50 15.0 - 15.5'
 Sand, brown to white, mottled. Mostly sand, very cohesive to getting hard near bottom. Drilling into weathered sandstone top. Formal refusal on last 6" interval. Sand is slightly moist. No indication of groundwater.

Complete at B-003 BH. Moving to B-002 BH.

0850 X Begin at B-002 BH
 B-002 BH 0.0' - 1.5' BLS
 INTERVAL 1 0.0 - 0.5'
 SPT 13 0.5' - 1.0'
 13 1.0' - 1.5'
 12

Recovery: 100%
 Gravel at top w/ hard silt, clay loam. Mostly dry w/ some small shale and quartz fragments. Cohesive.

0856 B-002 BH 5.0 - 6.5' BLS
 SPT 11 5.0 - 5.5'
 12 5.5 - 6.0'
 13 6.0 - 6.5'

Recovery: 100%
 Mostly a brown silt, clay loam. Shale fragments, mottled, with sand stringers. Mostly a silt loam, slightly moist and cohesive.

0905 → B-002 BH 10.0' - 11.5' BLS
 SPT 4 10.0 - 10.5'
 11 10.5 - 11.0'
 11 11.0 - 11.5'

Recovery: 100%
 Brown silt, clay loam near top with shale fragments and some sand. At 11.0' BLS contact with brown to tan, mottled sand. Moist, cohesive.

0913 Complete drilling at B-002 BH.
Moving to B-001 BH.

Louis Ibarra departed site to
return some Hizo Equipment
not longer needed and to
go into Columbus BH to obtain
HRS information.

0918 B-001 BH 0.0' - 1.0'

* INTERVAL 1	
SPT	13 0.0 - 0.5'
	13 0.5 - 1.0'
	8 1.0 - 1.5'

Gravel to 11. brown silt, clay loam
with few shale fragments. dry to
very slightly moist loam, cohesive,
mottled. few sand grains.

0930 B-001 BH 5.0 - 6.5'

* INTERVAL 2	
SPT	8 5.0 - 5.5'
	10 5.5 - 6.0'
	14 6.0 - 6.5'

Recovery: 100%

Brown. silt and clay loam. Some
shale and quartz fragments present.
Slightly moist, mottled, and cohesive.
few gravel particles.

0936 B-001 BH 10.0 - 11.5'

SPT	11 10.0 - 10.5'
	11 10.5 - 11.0'
	16 11.0 - 11.5'

Recovery: 100%

Brown, silt, clay loam, few
sand particles w/ some shale
fragments, to a sharp contact
with brown to tan and white
sand. Medium sand, moist,
cohesive. No water.

0940 Complete drilling at AOC-B.
Drillars pull off the site.
Move to decon area to
decon Augers.
Gravel hobs at AOC-B.

0945	E.P. calls Matt Alexander, to inform him of progress. Are finished with drilling program. Are beginning to de-mobilize at the station and will depart for S.A. today.				
0955	E.P. calls Mr. Saul Almer, at Rickenbacker ANGB to inform him of status and findings during field screening at the PA/SI. Field screening for BTEX was Non Detect at all intervals at all locations.				
1010	E.P. calls John Morris at Optech to inform him of the situation				
1036	E.P. calls DAN WYATT (ANGRC/CEUR PM) to brief him on the PA/SI. Inform him all drilling is completed. Since no water was found above the bedrock, optional drilling for Permeability				
1100		E.P. calls Charles Harkness (Surveyor) to schedule surveying at the site. Problems with contacts w/ main office. We will talk again on Monday (6-6-94) to resolve issues and will schedule surveying to occur by mid-next week.			
1115		E.P. prepares Chain-of-Custody on samples and departs site to deliver samples to FED-EX for delivery.			
1135		J.B. is packing equipment box and supervisor drills who are preparing equipment to depart the site.			
		Depnt FED-EX. Samples are away. Return to Zanesville ANG.			

1205 Return to Site. J.B. completing site clean-up. Drillers departed Site At 1135 After clean-up.

Site looks in Excellent condition.

DRUM INVENTORY

Drums placed on wooden pallets and placed in gravel Area of AOC-A east of Bldg S.

Drum	CONTENTS
1)	B-001 BH Soil Cuttings
	B-002 BH "
2)	B-003 BH "
	B-002 BH "
3)	A-001 BH "
	A-002 BH "
4)	A-007 BH "
5)	A-006 BH "

- 6) A-004 BH "
- 7) A-002 BH "
- A-003 BH "
- 8) A-005 BH "

9) DECON WATER

TOTAL OF 9 DRUMS

Equipment Boxes are sealed and will be shipped out on Monday. MSGT Connelly will look over it for us.

1215 E.P. and J.B. reset stakes over borehole locations to guide Surveyors.

E.P. and J.B. depart Zanesville ANGCS.

Go to Hotel to shower and to

check out.

1310 Depart Hotel and drive to Columbus.

1530 Arrive to turn in Rental Vehicle.

1600 Arrive at Airport.

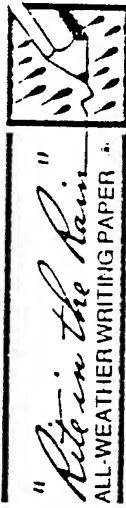
2130 Arrive in S.A. End of
Zanesville ANG's PA/SI Field
Work

Paul E. Lucht 6/3/94 (13.0)

Boxes: CLASS 85

ITEM 147110

CONTRACTOR Equipment Outfits



Name JOE Byrd, JR.
~~400~~ Project Scientist
Address 4100 N.W. Loop 410, #230
SAN ANTONIO, TX 78229
Phone (210) 731-0000

Project EVANESVILLE 1308-191

FEDEx - 1342-6486-1

HAECO -

"Rite in the Rain"---a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

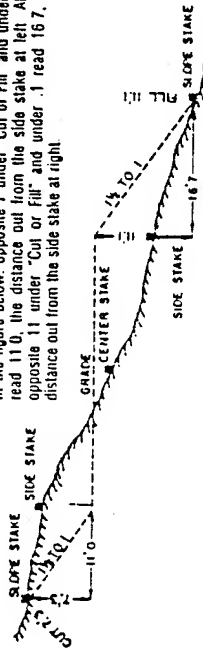
a product of

J. L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width, Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	1	2	3	4	5	6	7	8	9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.1	5.3	5.4	5.6	5.7	5.9	6.1	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

Wednesday
21 June 94

0812 Leave to bed
0830 On Base

Meet with Sgt. Donnelly and
plan out locations

1141 Lake base
Get water air

hunch (0.7)

1320	on base	set-up GC
------	---------	-----------

Decon sleeves & caps

1630	At hotel
------	----------

7.6k

For Byrds

[illegible]

DAY 1

THURSDAY

2 June 1984

0705
0730

Leave hotel
ON BASE

Prepare for drillers arrival

1030

DRILLERS ARRIVE

1050

Safety Mtg.
JB, EPZ, LY, Roger, Rob, Johnny
Discussed sites, ticks, RL to
Hospital

1105

Start Drilling
A-004 BH

DONE

1210

Drillers take lunch (AS)

1300

Begin Drilling
A-

Drill Ash of ACC-A

1715

DONE drilling for day

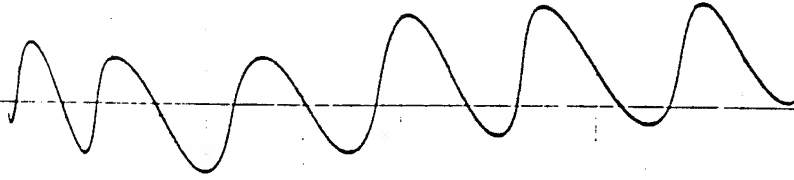
Break down equipment

1830

Leave base
Go to FEDEX

1922

At hotel



Garbyrd Jr

12.0 hrs

FRIDAY 3 June 1994

0648 Leave hotel
0700 On base

Prep for drilling

0740 Drillers arrive
0800 Start Drilling

0940 Done drilling

Drillers decom equipment

Begin packing our equipment
for shipment via
ABF freight systems

1040 Done packing boxes.
Drillers are still packing
holes

EP goes to FEDEX to
drop off samples

Drillers are done & leave.

Set all drums in 1
central location for bag
movement when base
personnel return on Monday

1150 EP Returns.
We mark BH's for
surveys. Police Area

1223 Leave base
at hotel

1312 ^{EST} Leave hotel

2230 ^{EST} Home
~~1312~~

10.3

15.9 hrs

Good Byed, JR

Chromatogram

Sample Name : 9406119-058

FileName : l:\data\tchrom\pest\varc\C__137.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -228 mV

Sample #: SC ;S

Date : 06/16/94 06:45

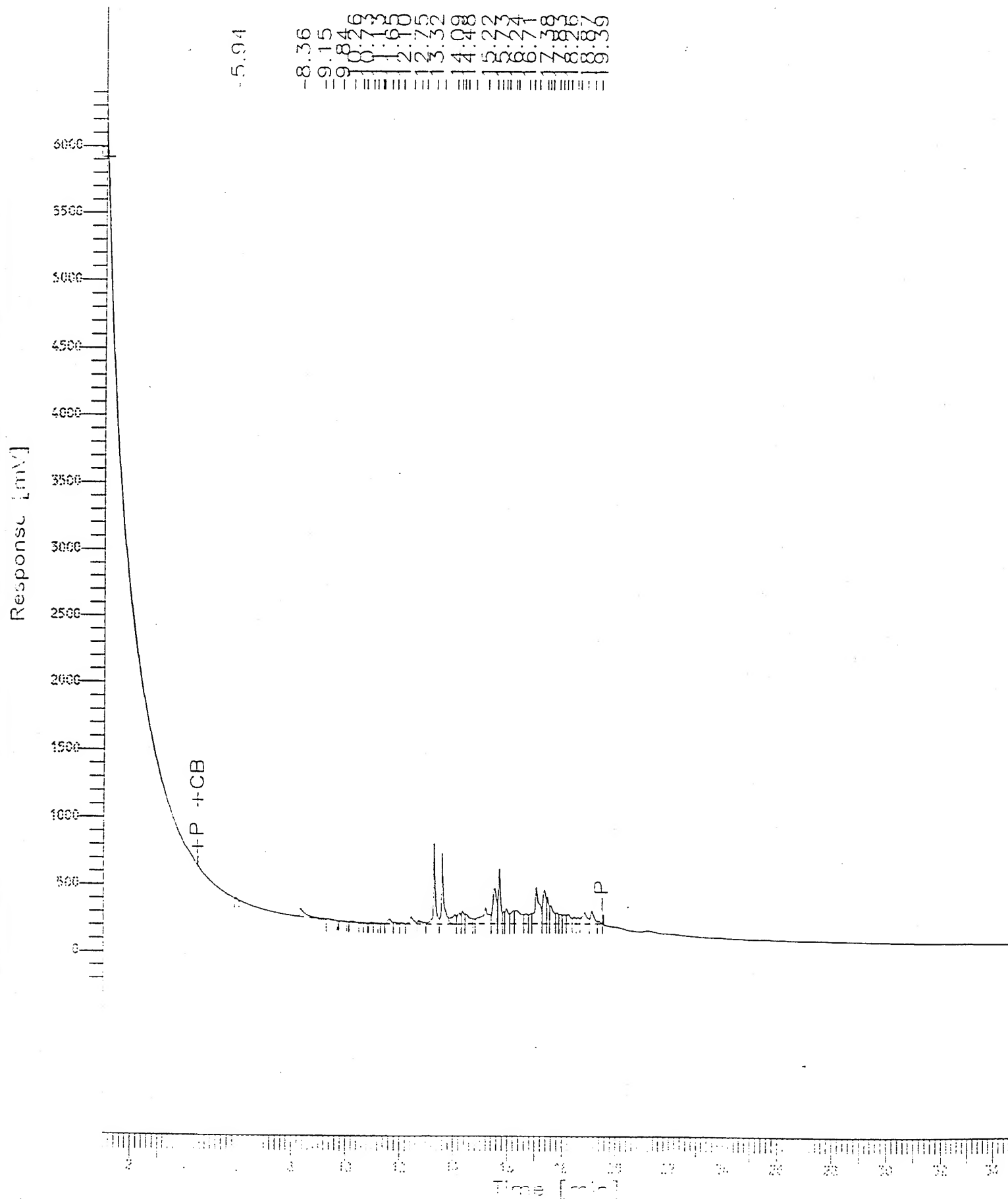
Time of Injection: 06/16/94 06:10

Low Point : -227.82 mV

Plot Scale: 6661 mV

Page 1 of 1

High Point : 6432.95 mV



Software Version: 3.2 <16C20>
 Sample Name : 9406119-06B Time : 6/14/94 08:44 AM
 Sample Number: SC ;S Study : MOOSD
 Operator : SEG
 Instrument : VARC Channel : A A/D mV Range : 10000
 AutoSampler : NONE
 Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/13/94 07:09 PM
 Delay Time : 1.00 min.
 End Time : 34.66 min.
 Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__094.raw
 Result File : C:\WINDOWS\TEMP\rst3844.rst
 Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
 Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
 Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
 Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
 Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.020	77280.00	9853.13	BB	1.0000e6	0.0415	20.8892	0.0000
2	7.974	2325.00	780.93	BB	1.0000e6	0.0415	20.8892	0.0000
3	8.219	6265.00	949.27	BV	1.0000e6	0.0415	20.8892	0.0000
4	8.464	15780.00	1444.71	VV	1.0000e6	0.0415	20.8892	0.0000
5	8.890	759678.13	21188.90	VV	1.0000e6	0.0415	20.8892	0.0000
6	9.446	429097.50	14506.94	VV	1.0000e6	0.0415	20.8892	0.0000
7	10.250	76219.06	6362.75	VV	1.0000e6	0.0415	20.8892	0.0000
8	10.543	79763.91	6468.09	VV	1.0000e6	0.0415	20.8892	0.0000
9	10.769	265495.63	9638.21	VV	1.0000e6	0.0415	20.8892	0.0000
10	11.582	53264.84	6965.16	VV	1.0000e6	0.0415	20.8892	0.0000
11	11.751	25889.69	4464.73	VV	1.0000e6	0.0415	20.8892	0.0000
12	11.887	81980.47	7474.37	VV	1.0000e6	0.0415	20.8892	0.0000
13	12.128	34071.17	4321.59	VV	9.9999e5	0.0415	20.8892	0.0000
14	12.264	149445.63	5112.41	VV	1.0000e6	0.0415	20.8892	0.0000
15	12.885	537169.38	18872.63	VV	9.9999e5	0.0415	20.8892	0.0000
16	13.794	116116.17	10310.37	VV	1.0000e6	0.0415	20.8892	0.0000
17	13.978	112097.11	9160.47	VV	1.0000e6	0.0415	20.8892	0.0000
18	14.211	257250.47	11253.09	VV	1.0000e6	0.0415	20.8892	0.0000
19	14.616	123853.59	11899.86	VV	1.0000e6	0.0415	20.8892	0.0000
20	14.758	251707.03	11668.24	VV	1.0000e6	0.0415	20.8892	0.0000
21	15.277	98583.59	9288.56	VB	1.0000e6	0.0415	20.8892	0.0000
22	15.771	1390719.88	259191.27	BB	1.0000e6	0.0415	20.8892	0.0000
23	16.326	791.25	1308.47	BB	1.0000e6	0.0415	20.8892	0.0000
24	17.024	16106.91	1481.43	BV	9.9999e5	0.0415	20.8892	0.0000
25	17.362	14617.99	2529.59	VB	1.0000e6	0.0415	20.8892	0.0000
26	17.559	9070.00	1063.91	BB	1.0000e6	0.0415	20.8892	0.0000
27	18.045	19454.89	3517.81	BB	1.0000e6	0.0415	20.8892	0.0000
28	18.633	25800.00	4654.70	BB	9.9999e5	0.0415	20.8892	0.0000
		5029894.00	455731.56			1.1628	584.8963	0.0006

END

Chromatogram

Sample Name : 9406119-06B

File Name : L:\DATA\TCHROM\PEST\VARC\C__094.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -139 mV

Sample #: SC ;S

Date : 6/14/94 08:45 AM

Time of Injection: 6/13/94 07:09 PM

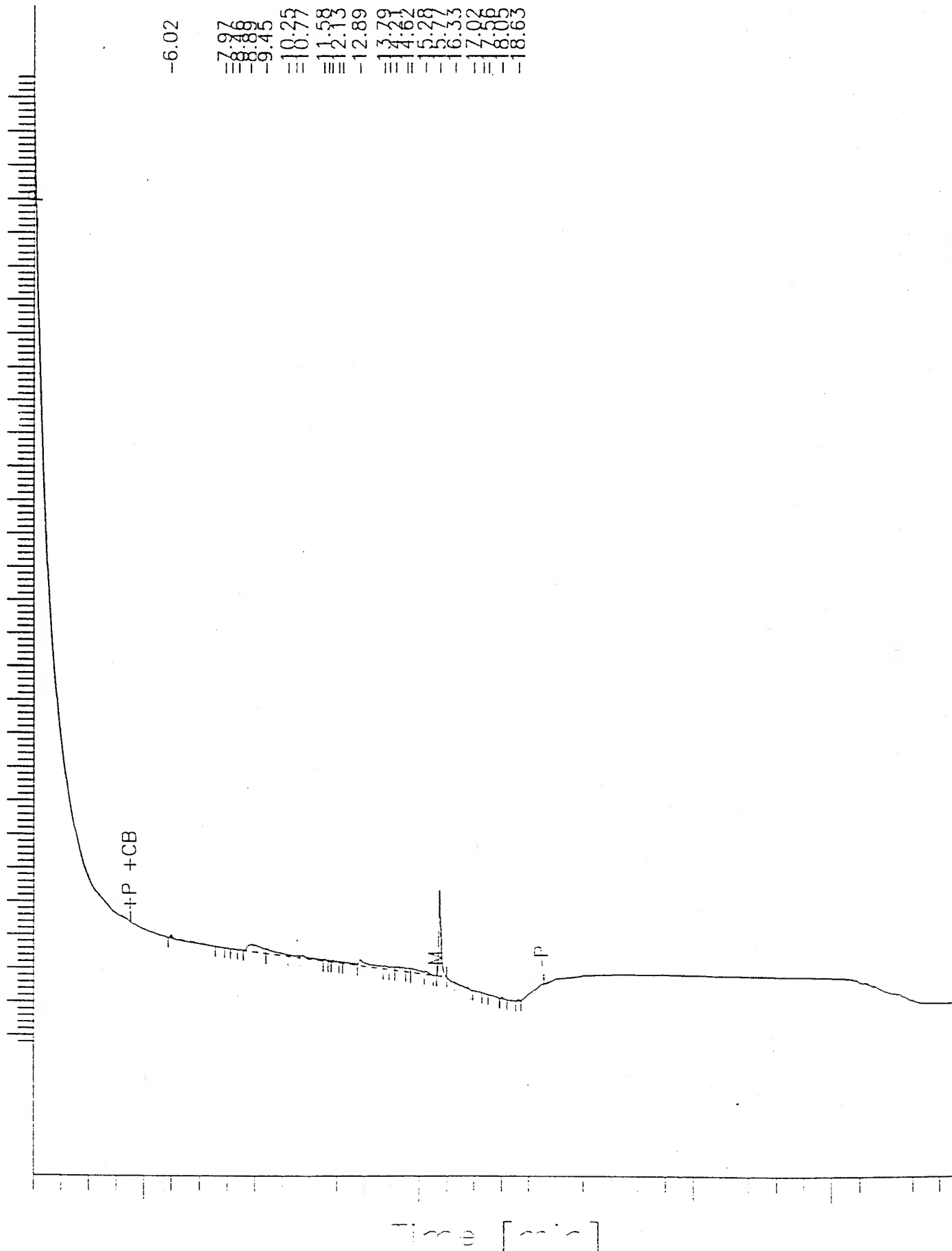
Low Point : -138.63 mV

Plot Scale: 2912 mV

Page 1 of 1

High Point : 2772.39 mV

Response [mV]



Software Version: 3.2 <16C20>
Sample Name : 9406119-06B Time : 06/13/94 19:44
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 19:09
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__094.raw
Result File : l:\data\tchrom\pest\varc\C__094.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.020	164272.50	9763.58	BV	1.0000e6	0.0415	61.4149	0.0000
2	7.974	5618.75	1023.49	VV	1.0000e6	0.0415	61.4149	0.0000
3	8.219	18491.72	1519.86	VV	1.0000e6	0.0415	61.4149	0.0000
4	8.464	39588.13	3081.67	VV	1.0000e6	0.0415	61.4149	0.0000
5	8.890	953859.38	24681.85	VV	1.0000e6	0.0415	61.4149	0.0000
6	9.446	790530.00	20424.21	VV	9.9999e5	0.0415	61.4149	0.0000
7	10.250	213141.88	15779.01	VV	1.0000e6	0.0415	61.4149	0.0000
8	10.543	219646.25	17161.26	VV	1.0000e6	0.0415	61.4149	0.0000
9	10.769	947705.00	21314.87	VV	1.0000e6	0.0415	61.4149	0.0000
10	11.582	222731.48	22183.14	VV	1.0000e6	0.0415	61.4149	0.0000
11	11.751	122028.16	20419.65	VV	1.0000e6	0.0415	61.4149	0.0000
12	11.887	368564.69	24020.49	VV	1.0000e6	0.0415	61.4149	0.0000
13	12.128	176193.44	21919.51	VV	1.0000e6	0.0415	61.4149	0.0000
14	12.264	764393.44	23301.15	VV	1.0000e6	0.0415	61.4149	0.0000
15	12.885	1841226.88	39764.79	VV	1.0000e6	0.0415	61.4149	0.0000
16	13.794	441906.00	35162.72	VV	1.0000e6	0.0415	61.4149	0.0000
17	13.978	423715.00	34814.59	VV	1.0000e6	0.0415	61.4149	0.0000
18	14.211	911845.75	37922.97	VV	1.0000e6	0.0415	61.4149	0.0000
19	14.616	437850.38	40331.60	VV	1.0000e6	0.0415	61.4149	0.0000
20	14.758	1090606.75	40721.54	VV	9.9999e5	0.0415	61.4149	0.0000
21	15.277	961856.06	40599.12	VV	1.0000e6	0.0415	61.4149	0.0000
22	15.771	2520164.75	292819.69	VE	1.0000e6	0.0415	61.4149	0.0000
23	16.326	724570.00	25709.40	EV	1.0000e6	0.0415	61.4149	0.0000
24	17.024	177568.16	10518.38	VV	1.0000e6	0.0415	61.4149	0.0000
25	17.362	92249.00	8985.18	VV	1.0000e6	0.0415	61.4149	0.0000
26	17.559	99548.13	6008.39	VV	1.0000e6	0.0415	61.4149	0.0000
27	18.045	32416.06	4833.59	VB	1.0000e6	0.0415	61.4149	0.0000
28	18.633	25800.00	4654.70	BB	9.9999e5	0.0415	61.4149	0.0000
		14788088.00	849440.31			1.1628	1719.6178	0.0002

END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__094.TX0

Software Version: 3.2 <16C20>

Sample Name : 9406119-088

Time : 6/14/94 08:39 AM

Sample Number: SC ;S

Study : MODSD

Operator : SEG

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/13/94 05:47 PM

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__092.raw

Result File : C:\WINDOWS\TEMP\rst3844.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : <none>

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.042	91160.00	10990.99	BB	1.0000e6	0.0415	12.2358	0.0000
2	8.005	3550.00	1015.78	BB	1.0000e6	0.0415	12.2358	0.0000
3	8.222	5925.00	795.05	BB	1.0000e6	0.0415	12.2358	0.0000
4	8.482	18220.00	1701.29	BV	1.0000e6	0.0415	12.2358	0.0000
5	8.901	675372.50	19496.61	VV	1.0000e6	0.0415	12.2358	0.0000
6	9.480	289096.25	11661.09	VV	1.0000e6	0.0415	12.2358	0.0000
7	10.283	53181.25	3526.47	VV	1.0000e6	0.0415	12.2358	0.0000
8	10.799	54610.00	4906.71	VB	1.0000e6	0.0415	12.2358	0.0000
9	11.617	14888.44	3139.72	BV	1.0000e6	0.0415	12.2358	0.0000
10	11.917	22481.25	3516.17	VB	1.0000e6	0.0415	12.2358	0.0000
11	12.911	50270.63	3409.25	BB	1.0000e6	0.0415	12.2358	0.0000
12	13.818	10565.00	1975.44	BB	1.0000e6	0.0415	12.2358	0.0000
13	14.240	6810.00	842.07	BV	1.0000e6	0.0415	12.2358	0.0000
14	14.644	11350.00	1184.16	VB	1.0000e6	0.0415	12.2358	0.0000
15	15.313	6795.00	1641.86	BB	1.0000e6	0.0415	12.2358	0.0000
16	15.803	1383359.88	258369.67	BB	1.0000e6	0.0415	12.2358	0.0000
17	16.488	6800.00	1525.25	BB	1.0000e6	0.0415	12.2358	0.0000
18	16.675	5410.94	1877.15	BV	1.0000e6	0.0415	12.2358	0.0000
19	16.864	19634.88	3018.38	VV	1.0000e6	0.0415	12.2358	0.0000
20	17.036	44744.06	3999.19	VB	1.0000e6	0.0415	12.2358	0.0000
21	17.717	16440.66	2685.34	BV	1.0000e6	0.0415	12.2358	0.0000
22	17.880	68686.25	5961.84	VV	1.0000e6	0.0415	12.2358	0.0000
23	18.566	47581.56	4442.89	VV	1.0000e6	0.0415	12.2358	0.0000
24	18.864	15471.37	2207.99	VB	1.0000e6	0.0415	12.2358	0.0000
25	19.127	2595.75	766.52	BV	1.0000e6	0.0415	12.2358	0.0000
26	19.267	21249.12	3419.53	VB	1.0000e6	0.0415	12.2358	0.0000
		2946249.75	358076.44			1.0798	318.1302	0.0009

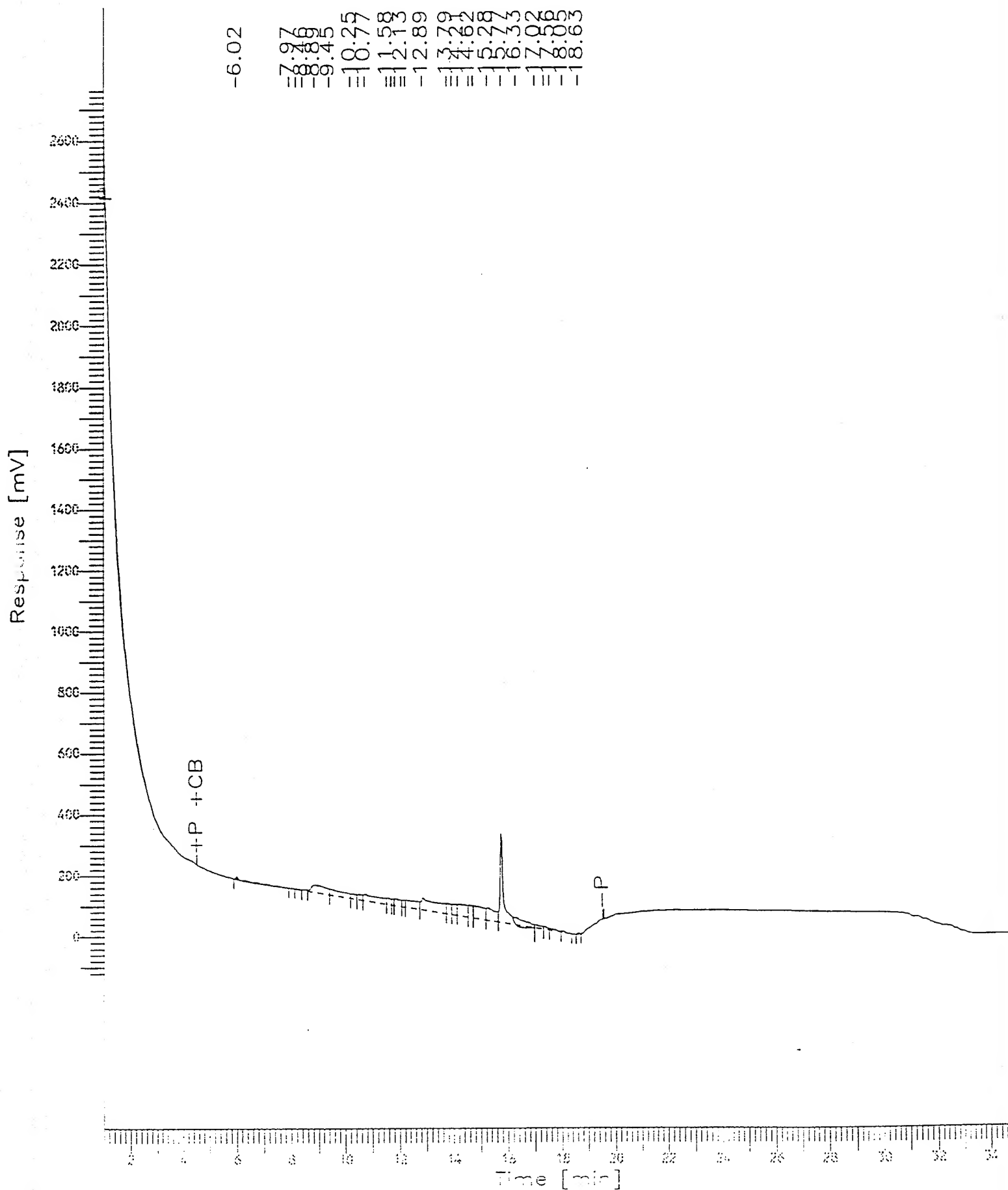
END

Chromatogram

Page 1 of 1

Sample Name : 9406119-068
 FileName : l:\data\tchrom\pest\varc\C__094.raw
 Method : DIESEL.C.ins
 Start Time : 1.00 min
 Scale Factor: 1

Sample #: SC ;S
 Date : 06/13/94 19:44
 Time of Injection: 06/13/94 19:09
 Low Point : -138.63 mV
 High Point : 2772.89 mV
 Plot Offset: -139 mV
 Plot Scale: 2912 mV



Sample Name : 9406119-108

Sample #: SC ;S

Page 1 of 1

FileName : L:\DATA\TCHROM\PEST\VARC\C__097.raw

Date : 6/14/94 08:52 AM

Method : DIESEL.C.ins

Time of Injection: 6/13/94 09:17 PM

Start Time : 1.00 min

End Time : 34.66 min

Low Point : -120.75 mV

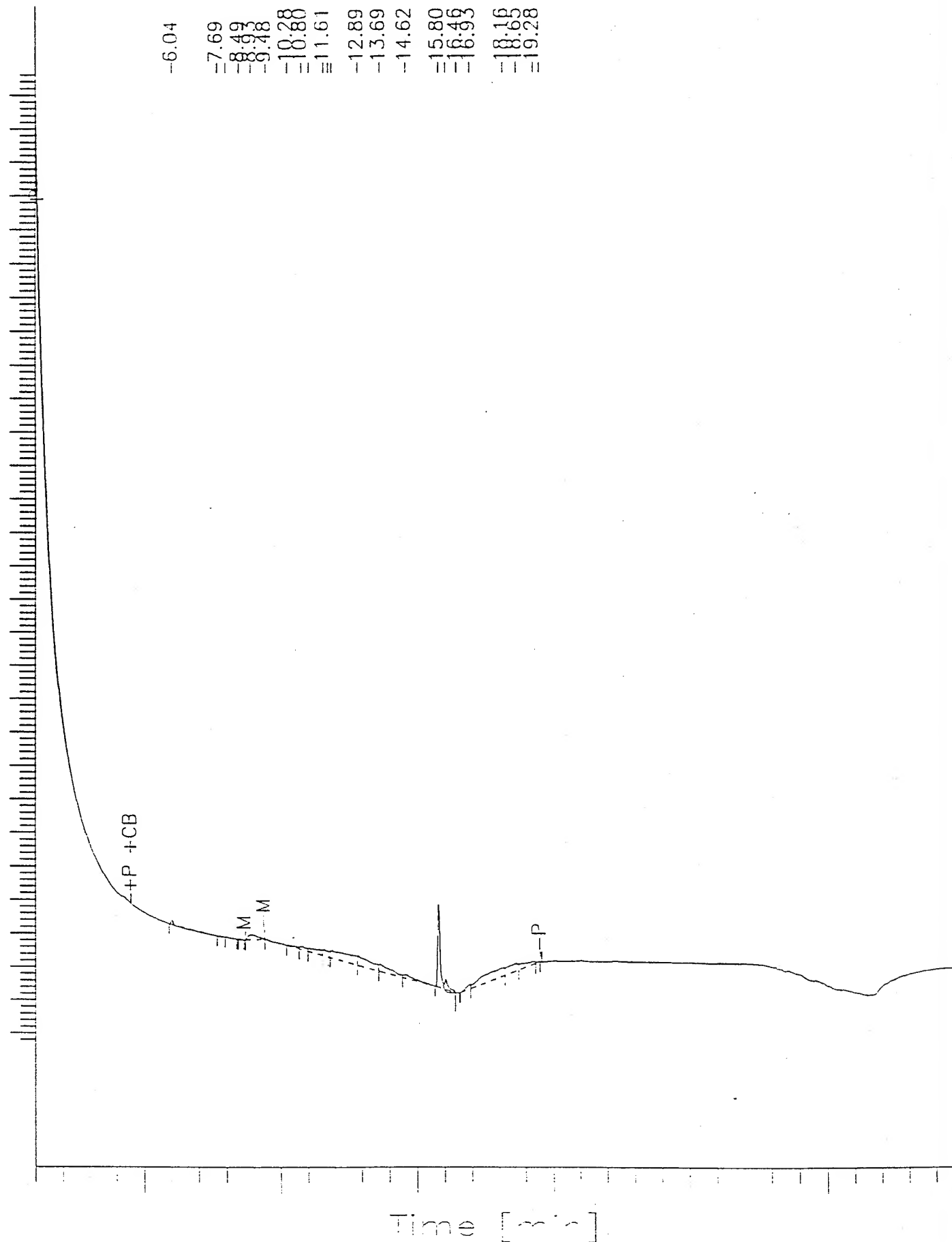
High Point : 2766.58 mV

Scale Factor: 1

Plot Offset: -121 mV

Plot Scale: 2887 mV

Response [mV]



Software Version: 3.2 <16C20>

Sample Name : 9406119-118

Time : 06/16/94 02:38

Sample Number: SC ;S

Study : MOOSD

Operator : SEG

Instrument : VARC

Channel : A

A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 02:03

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__131.raw

Result File : l:\data\tchrom\pest\varc\C__131.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.944	36770.00	11298.47	BB	1.0000e6	0.0415	140.8922	0.0000
2	6.695	22790.00	2873.33	BB	1.0000e6	0.0415	140.8922	0.0000
3	7.353	16560.00	3858.47	BB	1.0000e6	0.0415	140.8922	0.0000
4	7.719	22942.50	2693.11	BV	1.0000e6	0.0415	140.8922	0.0000
5	7.946	5292.50	3424.17	VB	1.0000e6	0.0415	140.8922	0.0000
6	8.398	517281.25	48109.91	BV	1.0000e6	0.0415	140.8922	0.0000
7	8.633	414849.38	28245.19	VV	1.0000e6	0.0415	140.8922	0.0000
8	9.129	168663.75	21391.92	VV	1.0000e6	0.0415	140.8922	0.0000
9	9.477	152355.63	16528.33	VV	1.0000e6	0.0415	140.8922	0.0000
10	9.863	68968.13	7574.95	VB	1.0000e6	0.0415	140.8922	0.0000
11	10.255	149405.31	21814.90	BV	1.0000e6	0.0415	140.8922	0.0000
12	10.590	87951.56	14664.98	VV	1.0000e6	0.0415	140.8922	0.0000
13	10.729	28183.59	7016.94	VB	1.0000e6	0.0415	140.8922	0.0000
14	10.991	312964.69	60957.36	BE	1.0000e6	0.0415	140.8922	0.0000
15	11.300	60980.00	7558.65	EB	1.0000e6	0.0415	140.8922	0.0000
16	11.696	168722.50	30191.36	BV	1.0000e6	0.0415	140.8922	0.0000
17	11.871	23979.06	3657.95	VV	1.0000e6	0.0415	140.8922	0.0000
18	12.113	22449.38	2713.42	VV	1.0000e6	0.0415	140.8922	0.0000
19	12.332	107018.75	19886.88	VB	1.0000e6	0.0415	140.8922	0.0000
20	12.613	6300.00	1615.25	BB	1.0000e6	0.0415	140.8922	0.0000
21	12.751	41431.25	6275.60	BV	1.0000e6	0.0415	140.8922	0.0000
22	12.847	17065.55	5039.87	VV	1.0000e6	0.0415	140.8922	0.0000
23	12.958	120840.31	22974.88	VV	1.0000e6	0.0415	140.8922	0.0000
24	13.236	6802.81	998.25	VB	1.0000e6	0.0415	140.8922	0.0000
25	13.403	16844.69	1219.54	BB	1.0000e6	0.0415	140.8922	0.0000
26	13.551	294037.50	47417.07	BV	1.0000e6	0.0415	140.8922	0.0000
27	13.773	219847.03	30279.96	VV	9.9999e5	0.0415	140.8922	0.0000
28	13.867	148614.69	30561.75	VV	1.0000e6	0.0415	140.8922	0.0000
29	13.983	237523.44	35294.37	VV	1.0000e6	0.0415	140.8922	0.0000
30	14.145	514085.94	57040.80	VV	1.0000e6	0.0415	140.8922	0.0000
31	14.232	203213.75	51661.60	VV	1.0000e6	0.0415	140.8922	0.0000
32	14.691	2116966.25	95173.77	VV	1.0000e6	0.0415	140.8922	0.0000
33	14.777	444734.28	90568.59	VV	1.0000e6	0.0415	140.8922	0.0000
34	14.965	936240.31	97930.44	VV	1.0000e6	0.0415	140.8922	0.0000
35	15.219	1948774.00	124246.13	VV	1.0000e6	0.0415	140.8922	0.0000
36	15.333	446453.66	112341.62	VV	1.0000e6	0.0415	140.8922	0.0000
37	15.559	1621105.63	132683.11	VV	1.0000e6	0.0415	140.8922	0.0000
38	15.734	3549113.00	435565.47	VV	1.0000e6	0.0415	140.8922	0.0000
39	16.002	2197872.50	147556.34	VV	1.0000e6	0.0415	140.8922	0.0000
40	16.232	1678403.63	149561.17	VV	1.0000e6	0.0415	140.8922	0.0000
41	16.457	2025448.38	153031.78	VV	1.0000e6	0.0415	140.8922	0.0000
42	16.595	693523.19	141496.28	VV	1.0000e6	0.0415	140.8922	0.0000
43	16.719	1245939.00	149835.53	VV	1.0000e6	0.0415	140.8922	0.0000
44	16.879	1275840.00	133024.05	VV	9.9999e5	0.0415	140.8922	0.0000
45	17.001	1051278.88	123576.45	VV	1.0000e6	0.0415	140.8922	0.0000
46	17.203	1532736.25	124505.21	VV	9.9999e5	0.0415	140.8922	0.0000
47	17.365	1465467.50	117342.97	VV	1.0000e6	0.0415	140.8922	0.0000
48	17.630	1754682.75	105821.72	VV	1.0000e6	0.0415	140.8922	0.0000
49	17.929	439918.59	74329.51	VV	1.0000e6	0.0415	140.8922	0.0000
50	18.071	717446.06	79799.25	VV	9.9999e5	0.0415	140.8922	0.0000

Chromatogram

Page 1 of 1

Sample Name : 9406119-08B

FileName : L:\DATA\TCHROM\PEST\VARC\C__092.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

End Time : 34.66 min

Scale Factor: 1

Plot Offset: -123 mV

Sample #: SC ;S

Date : 6/14/94 08:39 AM

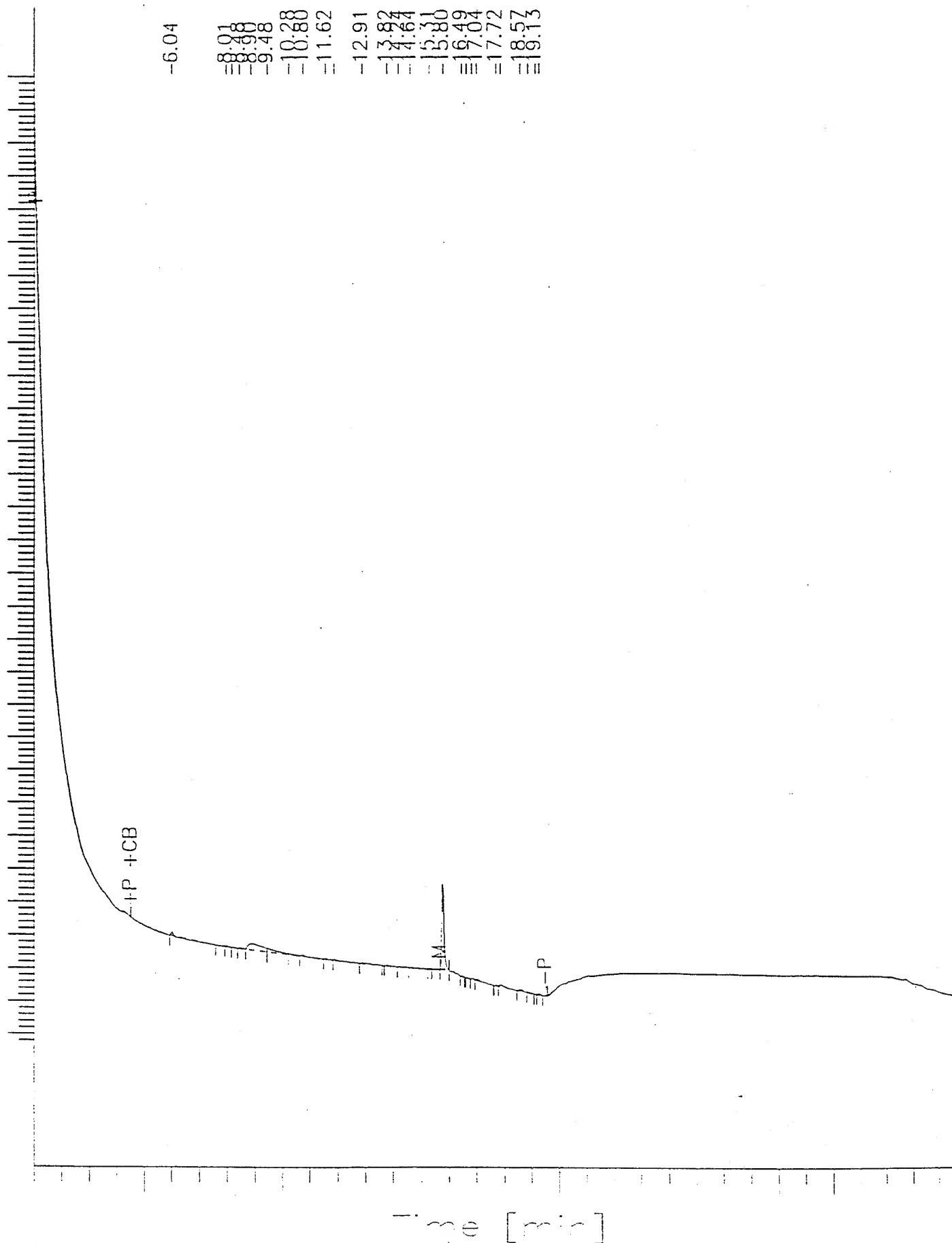
Time of Injection: 6/13/94 05:47 PM

Low Point : -122.81 mV

High Point : 2808.38 mV

Plot Scale: 2931 mV

Response [mV]



Software Version: 3.2 <16C20>

Sample Name : 9406119-07B

Time : 06/16/94 06:03

Sample Number: SC ;S

Study : MODSD

Operator : SEG

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 05:29

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__136.raw

Result File : l:\data\tchrom\pest\varc\C__136.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.928	50515.31	12760.12	BB	1.0000e6	0.0415	181.0080	0.0000
2	7.885	26469.38	3038.73	BB	1.0000e6	0.0415	181.0080	0.0000
3	8.336	802435.00	69421.80	BE	1.0000e6	0.0415	181.0080	0.0000
4	8.822	135590.00	11770.06	EV	1.0000e6	0.0415	181.0080	0.0000
5	9.133	36318.75	4913.79	VV	1.0000e6	0.0415	181.0080	0.0000
6	9.303	437505.00	66177.59	VV	1.0000e6	0.0415	181.0080	0.0000
7	9.818	114422.50	9349.88	VV	1.0000e6	0.0415	181.0080	0.0000
8	10.185	590361.88	41672.33	VV	1.0000e6	0.0415	181.0080	0.0000
9	10.545	46760.23	10184.80	VV	1.0000e6	0.0415	181.0080	0.0000
10	10.639	82909.06	10160.82	VB	1.0000e6	0.0415	181.0080	0.0000
11	10.958	54279.53	12738.30	BV	1.0000e6	0.0415	181.0080	0.0000
12	11.097	55680.63	9402.99	VB	1.0000e6	0.0415	181.0080	0.0000
13	11.502	4895844.50	785709.31	BE	1.0000e6	0.0415	181.0080	0.0000
14	12.068	174440.00	17561.61	EV	1.0000e6	0.0415	181.0080	0.0000
15	12.418	1460005.00	147471.80	VV	1.0000e6	0.0415	181.0080	0.0000
16	12.723	212329.06	37293.54	VV	1.0000e6	0.0415	181.0080	0.0000
17	12.897	485875.00	46063.62	VV	1.0000e6	0.0415	181.0080	0.0000
18	13.285	4827688.00	1.01e6	VV	9.9999e5	0.0415	181.0080	0.0000
19	13.593	4255839.50	730039.63	VE	1.0000e6	0.0415	181.0080	0.0000
20	13.980	348560.00	50367.79	EV	1.0000e6	0.0415	181.0080	0.0000
21	14.053	396245.94	61222.18	VV	1.0000e6	0.0415	181.0080	0.0000
22	14.222	546607.31	78460.68	VV	1.0000e6	0.0415	181.0080	0.0000
23	14.342	541295.94	82740.89	VV	1.0000e6	0.0415	181.0080	0.0000
24	14.453	474078.13	59352.07	VB	1.0000e6	0.0415	181.0080	0.0000
25	14.922	78332.50	11826.59	BV	1.0000e6	0.0415	181.0080	0.0000
26	15.180	884989.69	97099.70	VV	1.0000e6	0.0415	181.0080	0.0000
27	15.519	2951952.50	316643.72	VV	1.0000e6	0.0415	181.0080	0.0000
28	15.705	2095630.88	382893.25	VE	1.0000e6	0.0415	181.0080	0.0000
29	15.853	380690.00	55424.36	EV	1.0000e6	0.0415	181.0080	0.0000
30	15.964	228219.53	47684.38	VV	1.0000e6	0.0415	181.0080	0.0000
31	16.206	847710.00	77530.48	VV	1.0000e6	0.0415	181.0080	0.0000
32	16.287	304603.66	77519.13	VV	9.9999e5	0.0415	181.0080	0.0000
33	16.348	726081.56	75760.92	VV	1.0000e6	0.0415	181.0080	0.0000
34	16.688	561440.31	49846.33	VV	1.0000e6	0.0415	181.0080	0.0000
35	17.049	3567385.00	303988.50	VV	1.0000e6	0.0415	181.0080	0.0000
36	17.371	1395558.25	212632.33	VV	1.0000e6	0.0415	181.0080	0.0000
37	17.452	1122154.38	196861.02	VV	1.0000e6	0.0415	181.0080	0.0000
38	17.581	1257356.50	129312.20	VV	1.0000e6	0.0415	181.0080	0.0000
39	17.806	551551.06	73463.45	VV	1.0000e6	0.0415	181.0080	0.0000
40	17.929	563767.31	65879.56	VV	1.0000e6	0.0415	181.0080	0.0000
41	18.220	1318246.88	81250.91	VV	1.0000e6	0.0415	181.0080	0.0000
42	18.465	452902.66	61121.58	VV	1.0000e6	0.0415	181.0080	0.0000
43	18.597	383051.25	50340.82	VV	1.0000e6	0.0415	181.0080	0.0000
44	18.840	1438375.00	107168.02	VV	1.0000e6	0.0415	181.0080	0.0000
45	19.123	1233165.00	116683.12	VV	1.0000e6	0.0415	181.0080	0.0000
46	19.378	189640.63	27045.29	VB	1.0000e6	0.0415	181.0080	0.0000
		43584868.00	5.99e6			1.9104	3326.3643	0.0001

END

=====

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__136.TX0

Sample Name : 9406119-073

FileName : l:\data\tchrom\pest\varc\C__136.raw

Method : DIESELCLINS

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -202 mV

Sample #: SC ;S

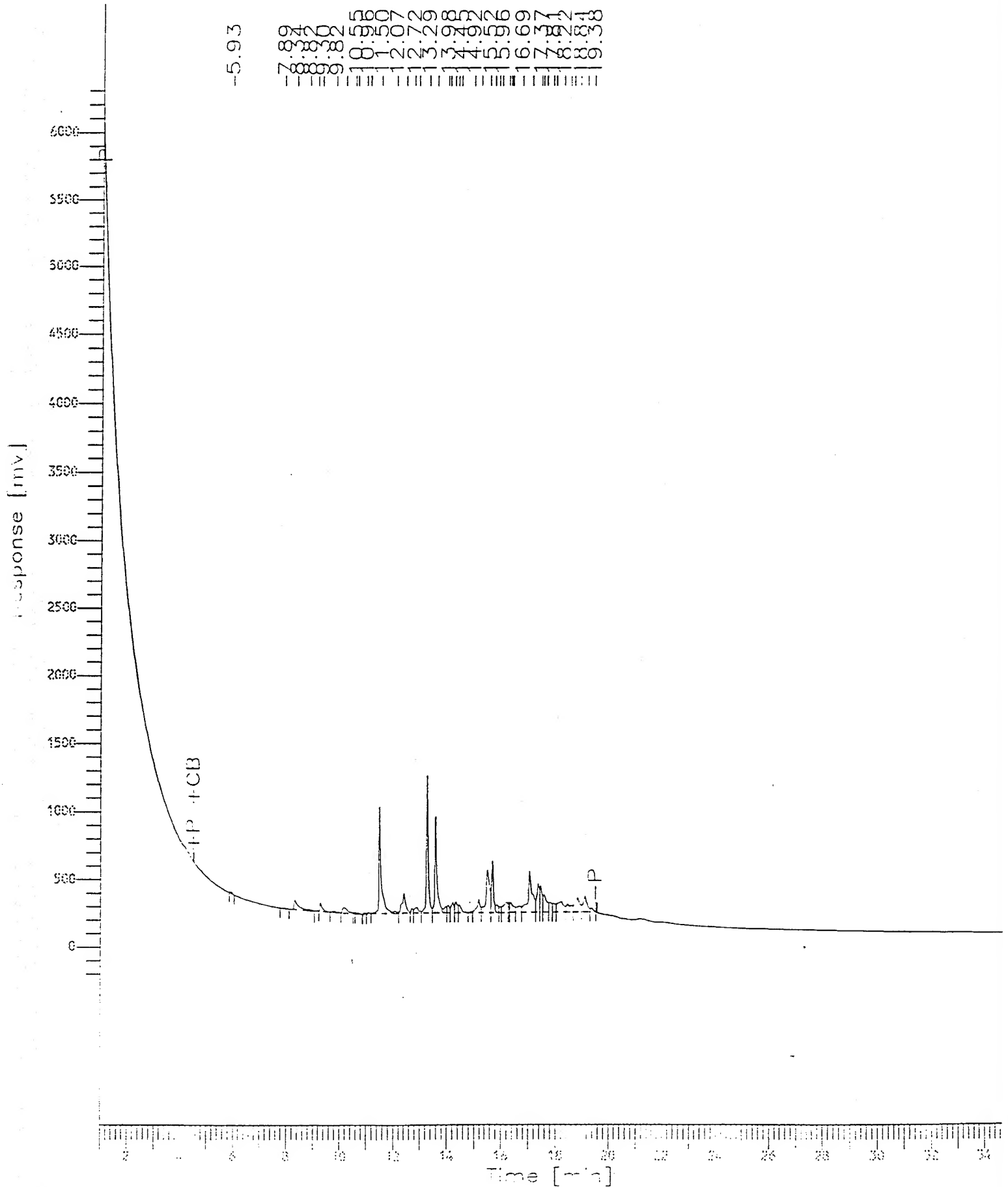
Date : 06/16/94 06:04

Time of Injection: 06/16/94 05:29

Low Point : -201.90 mV

Plot Scale: 6540 mV

Page 1 of 1



Software Version: 3.2 <16C20>
 Sample Name : 9406119-088 Time : 06/13/94 18:22
 Sample Number: SC ;S Study : MCO5D
 Operator : SEG
 Instrument : VARC Channel : A A/D mV Range : 10000
 AutoSampler : NONE
 Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 17:47
 Delay Time : 1.00 min.
 End Time : 34.66 min.
 Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__092.raw
 Result File : l:\data\tchrom\pest\varc\C__092.rst
 Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
 Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
 Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
 Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
 Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.042	91160.00	10990.99	BB	1.0000e6	0.0415	46.1247	0.0000
2	8.005	3550.00	1015.78	BB	1.0000e6	0.0415	46.1247	0.0000
3	8.222	6923.13	822.69	BV	1.0000e6	0.0415	46.1247	0.0000
4	8.482	27565.00	2084.55	VV	1.0000e6	0.0415	46.1247	0.0000
5	8.901	768193.75	21050.67	VV	1.0000e6	0.0415	46.1247	0.0000
6	9.480	491100.00	14835.29	VV	1.0000e6	0.0415	46.1247	0.0000
7	10.283	200920.94	8946.68	VV	1.0000e6	0.0415	46.1247	0.0000
8	10.799	446324.38	11769.32	VV	1.0000e6	0.0415	46.1247	0.0000
9	11.617	202152.66	12306.13	VV	1.0000e6	0.0415	46.1247	0.0000
10	11.917	664600.63	13570.78	VV	1.0000e6	0.0415	46.1247	0.0000
11	12.911	869947.50	16617.45	VV	1.0000e6	0.0415	46.1247	0.0000
12	13.818	531953.44	19894.43	VV	1.0000e6	0.0415	46.1247	0.0000
13	14.240	517604.53	21162.98	VV	1.0000e6	0.0415	46.1247	0.0000
14	14.644	1005885.00	24214.25	VV	1.0000e6	0.0415	46.1247	0.0000
15	15.313	677572.31	29639.67	VV	1.0000e6	0.0415	46.1247	0.0000
16	15.803	2739125.25	291289.06	VE	1.0000e6	0.0415	46.1247	0.0000
17	16.488	367310.00	24733.29	EV	1.0000e6	0.0415	46.1247	0.0000
18	16.675	204761.64	20542.15	VV	1.0000e6	0.0415	46.1247	0.0000
19	16.864	166613.52	19643.72	VV	1.0000e6	0.0415	46.1247	0.0000
20	17.036	530723.88	18782.66	VV	1.0000e6	0.0415	46.1247	0.0000
21	17.717	89231.64	10813.60	VV	1.0000e6	0.0415	46.1247	0.0000
22	17.880	307407.03	13247.62	VV	1.0000e6	0.0415	46.1247	0.0000
23	18.566	119867.93	8164.72	VV	1.0000e6	0.0415	46.1247	0.0000
24	18.864	41721.48	4382.21	VV	1.0000e6	0.0415	46.1247	0.0000
25	19.127	8069.24	1757.66	VV	9.9999e5	0.0415	46.1247	0.0000
26	19.267	26067.03	3931.17	VB	1.0000e6	0.0415	46.1247	0.0000
		11106353.00	626209.63			1.0798	1199.2418	0.0002

END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__092.TX0

Chromatogram

Sample Name : 9406119-088

FileName : l:\data\tchrom\pest\varc\C__092.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -123 mV

Sample #: SC ;S

Date : 06/13/94 18:22

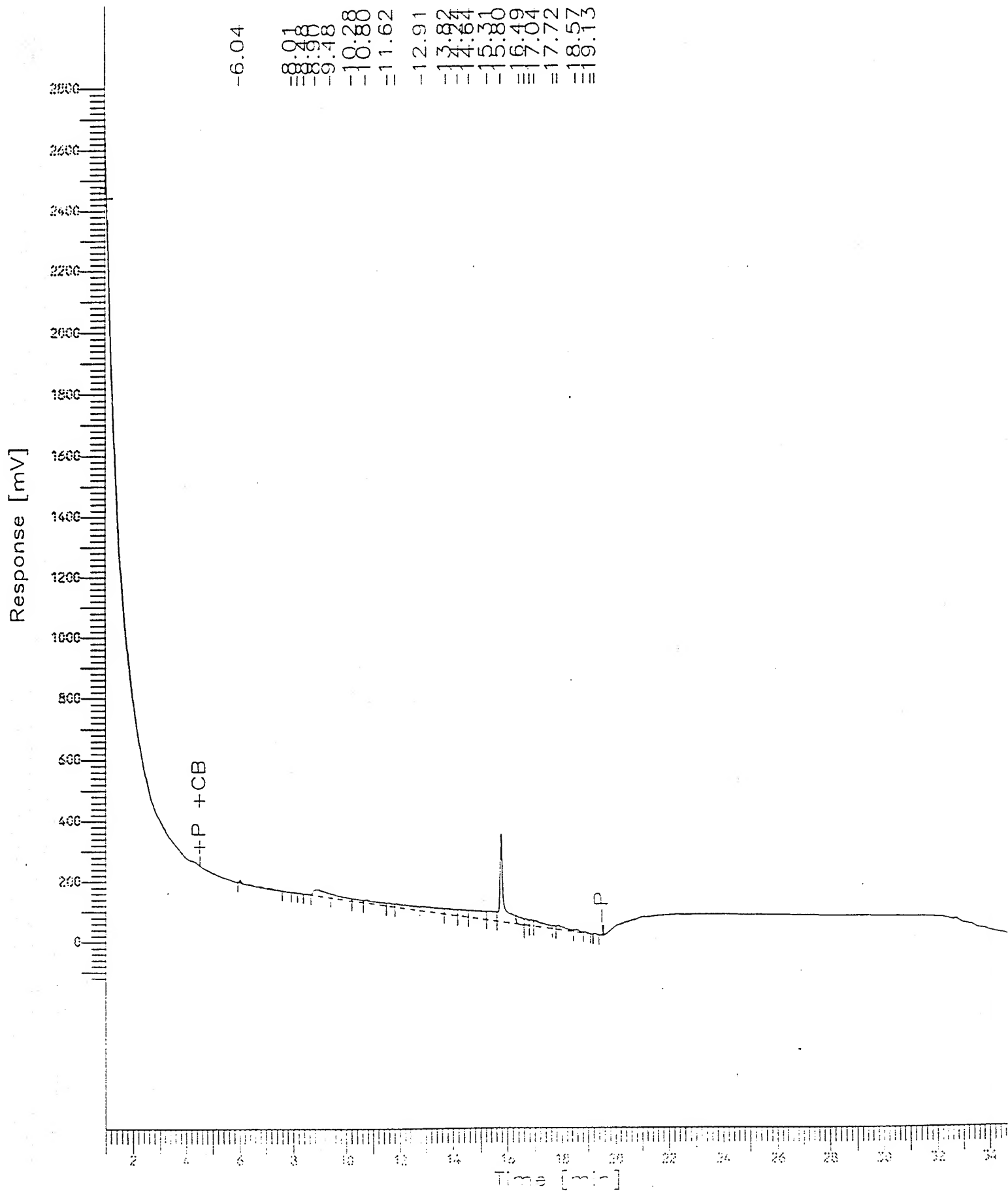
Time of Injection: 06/13/94 17:47

Low Point : -122.81 mV

Plot Scale: 2931 mV

Page 1 of 1

High Point : 2808.38 mV



=====

Software Version: 3.2 <16C20>

Sample Name : 9406119-098 Time : 06/13/94 21:10
Sample Number: SC ;S Study : MOOSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 20:35
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__096.raw
Result File : l:\data\tchrom\pest\varc\C__096.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

=====

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.033	186462.50	13833.05	BB	9.9999e5	0.0415	26.7348	0.0000
2	8.226	6559.84	1236.46	BB	1.0000e6	0.0415	26.7348	0.0000
3	8.444	18405.16	3829.85	BB	1.0000e6	0.0415	26.7348	0.0000
4	8.825	608210.63	14823.73	BB	1.0000e6	0.0415	26.7348	0.0000
5	9.914	62690.00	1650.23	BB	1.0000e6	0.0415	26.7348	0.0000
6	10.772	62120.16	5349.13	BB	1.0000e6	0.0415	26.7348	0.0000
7	11.581	7354.95	2365.25	BB	1.0000e6	0.0415	26.7348	0.0000
8	11.753	16369.23	2187.43	BV	9.9999e5	0.0415	26.7348	0.0000
9	11.893	43475.82	6812.60	VB	1.0000e6	0.0415	26.7348	0.0000
10	12.901	580806.31	29186.41	BV	1.0000e6	0.0415	26.7348	0.0000
11	13.099	385645.19	28414.82	VV	1.0000e6	0.0415	26.7348	0.0000
12	13.437	473345.84	29330.23	VV	1.0000e6	0.0415	26.7348	0.0000
13	13.674	496985.81	29499.78	VV	1.0000e6	0.0415	26.7348	0.0000
14	13.814	257955.23	29784.72	VV	1.0000e6	0.0415	26.7348	0.0000
15	14.072	339263.72	25245.26	VV	1.0000e6	0.0415	26.7348	0.0000
16	14.251	290892.50	24508.59	VV	9.9999e5	0.0415	26.7348	0.0000
17	14.378	173651.33	21760.74	VV	1.0000e6	0.0415	26.7348	0.0000
18	14.458	78086.56	19785.79	VV	1.0000e6	0.0415	26.7348	0.0000
19	14.636	229450.86	18153.40	VV	9.9999e5	0.0415	26.7348	0.0000
20	14.802	141012.19	14453.81	VV	1.0000e6	0.0415	26.7348	0.0000
21	15.005	141421.33	10528.29	VV	9.9999e5	0.0415	26.7348	0.0000
22	15.148	22190.70	7315.33	VV	1.0000e6	0.0415	26.7348	0.0000
23	15.305	70914.61	6922.21	VV	1.0000e6	0.0415	26.7348	0.0000
24	15.379	34679.69	5162.51	VV	1.0000e6	0.0415	26.7348	0.0000
25	15.578	3915.00	571.99	VB	1.0000e6	0.0415	26.7348	0.0000
26	15.788	1407590.00	228974.30	BE	1.0000e6	0.0415	26.7348	0.0000
27	16.301	30010.00	3440.13	EB	1.0000e6	0.0415	26.7348	0.0000
28	16.794	22740.00	2987.28	BB	9.9999e5	0.0415	26.7348	0.0000
29	17.100	3400.00	637.73	BB	1.0000e6	0.0415	26.7348	0.0000
30	17.258	11857.89	2132.86	BV	1.0000e6	0.0415	26.7348	0.0000
31	17.388	23022.97	3033.24	VE	1.0000e6	0.0415	26.7348	0.0000
32	17.585	630.00	262.62	EV	9.9999e5	0.0415	26.7348	0.0000
33	17.708	10909.14	2044.38	VB	9.9999e5	0.0415	26.7348	0.0000
34	18.095	33212.81	2961.12	BV	1.0000e6	0.0415	26.7348	0.0000
35	18.639	85354.34	5940.89	VV	1.0000e6	0.0415	26.7348	0.0000
36	18.838	16223.48	2507.38	VV	9.9999e5	0.0415	26.7348	0.0000
37	18.982	16141.33	1729.02	VV	9.9999e5	0.0415	26.7348	0.0000
38	19.137	17258.09	2580.16	VV	1.0000e6	0.0415	26.7348	0.0000
39	19.255	27259.45	3834.50	VB	1.0000e6	0.0415	26.7348	0.0000
		6437475.00	615777.19			1.6197	1042.6591	0.0006

=====

END

=====

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__096.TXT

Chromatogram

Sample Name : 9406119-098

FileName : l:\data\tchrom\pest\varc\C__096.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -156 mV

Sample #: SC ;S

Date : 06/13/94 21:10

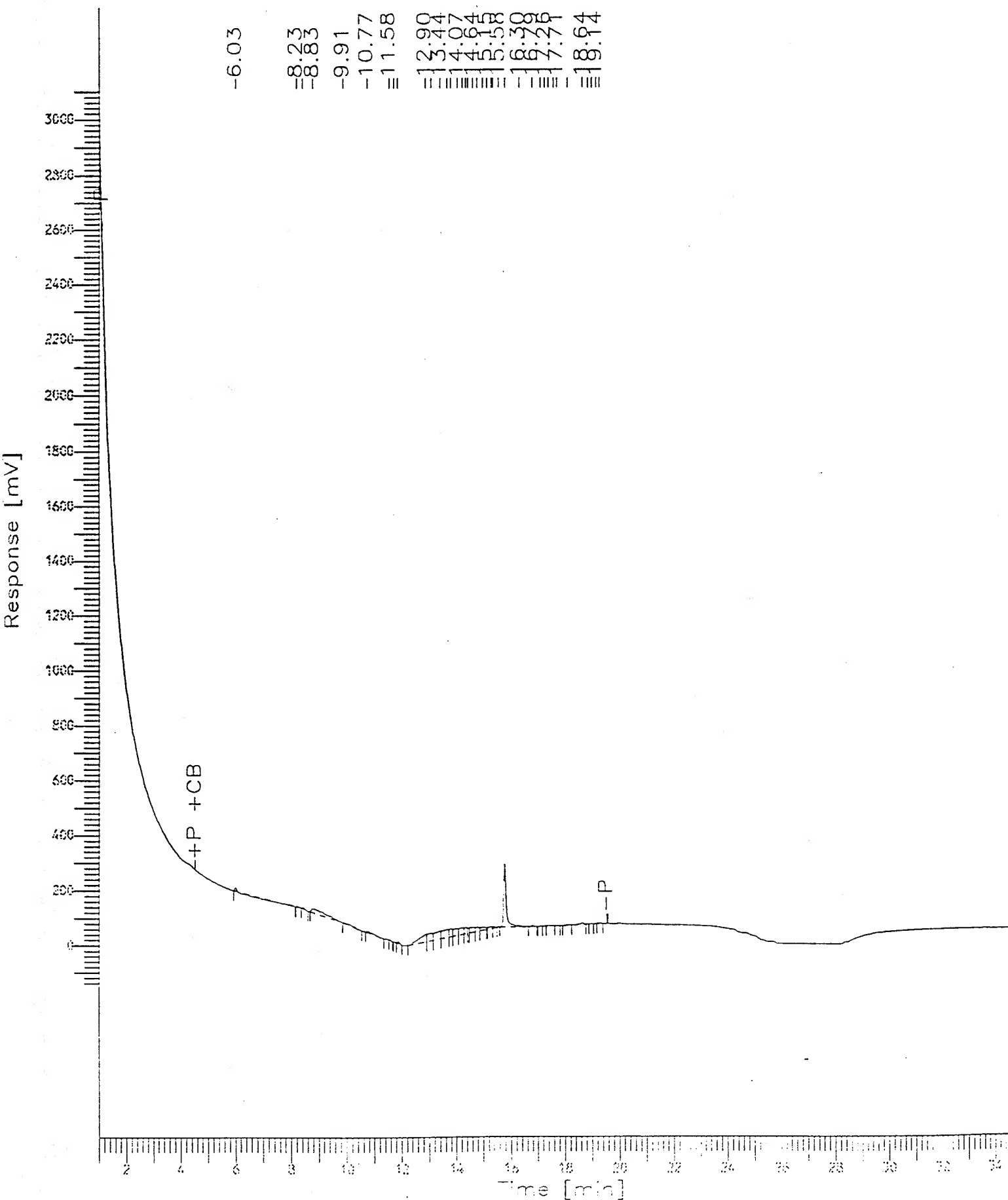
Time of Injection: 06/13/94 20:35

Low Point : -155.57 mV

Plot Scale: 3267 mV

Page 1 of 1

High Point : 3111.68 mV



```

=====
Software Version: 3.2 <16C20>
Sample Name   : 9406119-10B      Time       : 6/14/94  08:52 AM
Sample Number : SC ;S            Study        : MCDSD
Operator      : SEG

Instrument    : VARC              Channel : A      A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

```

```

Interface Serial # : 8328570191  Data Acquisition Time: 6/13/94  09:17 PM
Delay Time       : 1.00 min.
End Time        : 34.66 min.
Sampling Rate    : 1.0000 pts/sec

```

```

Raw Data File  : L:\DATA\TCHROM\PEST\VARC\C__097.raw
Result File    : C:\WINDOWS\TEMP\rst3844.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File  : <none>

```

```

Inj. Volume   : 1 ul              Area Reject   : 100.00
Sample Amount : 1.0000           Dilution Factor : 1.00

```

=====

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.041	75792.50	14503.62	BB	1.0000e6	0.0415	39.5829	0.0000
2	7.693	4127.19	504.75	BV	9.9999e5	0.0415	39.5829	0.0000
3	7.994	5353.13	1124.56	VB	1.0000e6	0.0415	39.5829	0.0000
4	8.489	5710.16	1059.53	BB	1.0000e6	0.0415	39.5829	0.0000
5	8.932	368835.00	14896.36	BB	1.0000e6	0.0415	39.5829	0.0000
6	9.481	9317.50	1573.50	BV	1.0000e6	0.0415	39.5829	0.0000
7	10.279	95327.81	2653.12	VV	1.0000e6	0.0415	39.5829	0.0000
8	10.797	157196.88	10503.59	VV	1.0000e6	0.0415	39.5829	0.0000
9	11.072	384237.81	10058.30	VV	9.9999e5	0.0415	39.5829	0.0000
10	11.613	207340.78	19120.18	VV	1.0000e6	0.0415	39.5829	0.0000
11	11.783	92585.08	18639.50	VV	1.0000e6	0.0415	39.5829	0.0000
12	11.914	1410973.13	23179.53	VV	1.0000e6	0.0415	39.5829	0.0000
13	12.891	1015436.56	28021.93	VV	1.0000e6	0.0415	39.5829	0.0000
14	13.691	645974.69	21239.72	VV	1.0000e6	0.0415	39.5829	0.0000
15	14.616	282957.81	11217.52	VB	9.9999e5	0.0415	39.5829	0.0000
16	15.803	1413420.75	247801.80	BE	9.9999e5	0.0415	39.5829	0.0000
17	16.066	280580.00	36583.90	EB	9.9999e5	0.0415	39.5829	0.0000
18	16.457	3740.00	840.53	BB	1.0000e6	0.0415	39.5829	0.0000
19	16.934	173640.03	13879.39	BV	1.0000e6	0.0415	39.5829	0.0000
20	18.163	1724647.50	25352.87	VV	1.0000e6	0.0415	39.5829	0.0000
21	18.649	703316.38	23461.42	VV	1.0000e6	0.0415	39.5829	0.0000
22	19.280	448366.88	9398.26	VV	1.0000e6	0.0415	39.5829	0.0000
23	19.500	22286.80	1174.51	VB	1.0000e6	0.0415	39.5829	0.0000
		9531165.00	536788.38			0.9552	910.4075	0.0002

=====

END

=====

51	18.266	964303.44	78202.19	VV	1.0000e6	0.0415	140.8922	0.0000
52	18.485	501284.53	62888.62	VV	1.0000e6	0.0415	140.8922	0.0000
53	18.622	852250.31	58190.98	VV	1.0000e6	0.0415	140.8922	0.0000
54	19.184	250872.19	22082.77	VB	1.0000e6	0.0415	140.8922	0.0000

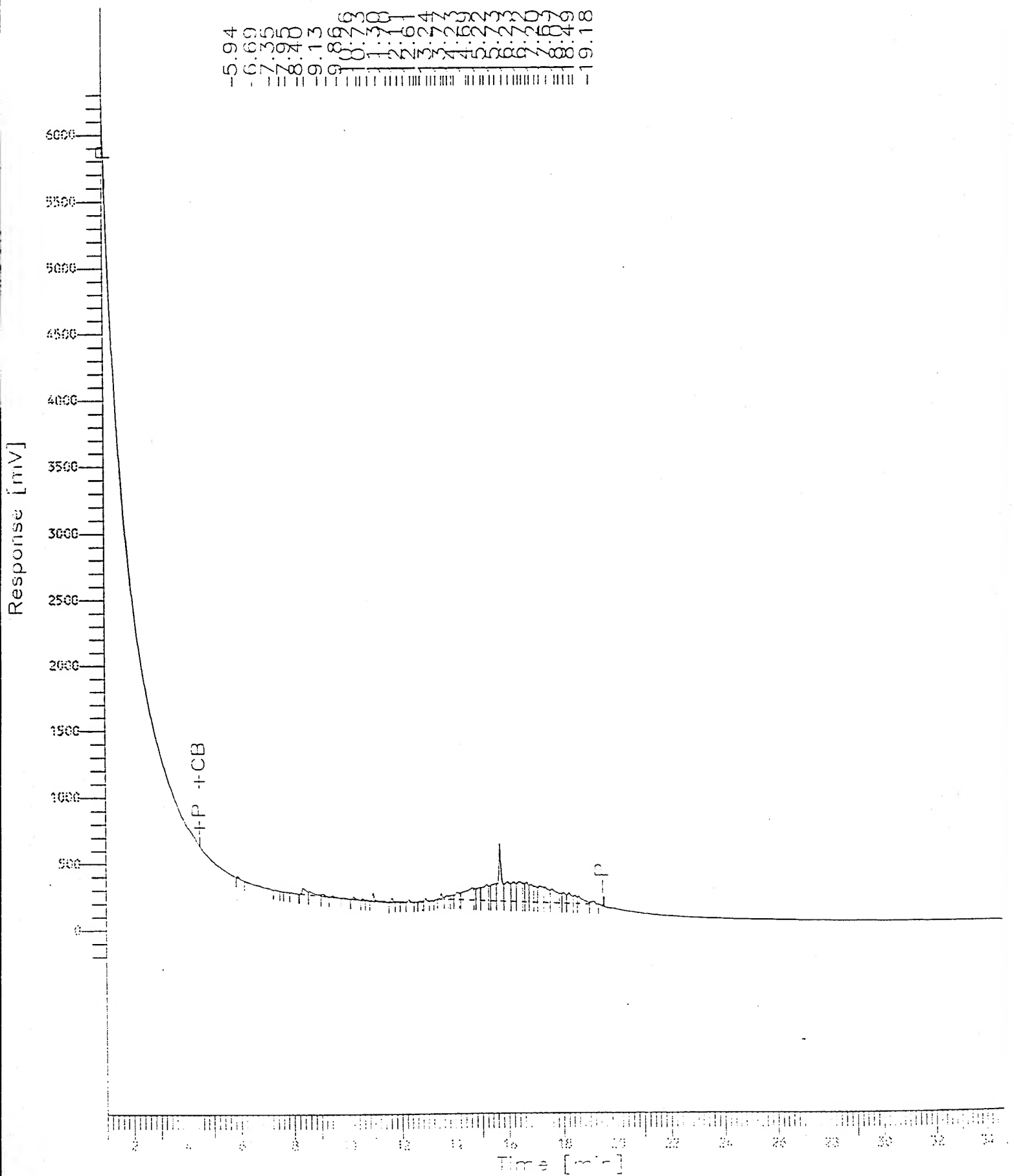
		33925392.00	3.41e6			2.2426	7608.1733	0.0002

```
=====
END
=====
```

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___131.TX0

Page 1 of 1

Sample #: SC ;S Page 1 of 1
Date : 06/16/94 02:38
Time of Injection: 06/16/94 02:03
Low Point : -263.78 mV High Point : 6361.99 mV
Plot Scale: 6626 mV



Software Version: 3.2 <16C20>

Sample Name : 9406119-138

Time : 06/16/94 03:19

Sample Number: SC ;S

Study : MODSD

Operator : SEG

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NCNE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 02:44

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\data\tchrom\pest\varc\C__132.raw

Result File : L:\data\tchrom\pest\varc\C__132.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.717	4719977.50	477009.75	BV	1.0000e6	0.0415	563.9883	0.0000
2	4.965	4254255.00	548959.50	VV	1.0000e6	0.0415	563.9883	0.0000
3	5.207	12165640.00	1.38e6	VV	1.0000e6	0.0415	563.9883	0.0000
4	5.385	7656277.50	984412.88	VB	1.0000e6	0.0415	563.9883	0.0000
5	5.682	45790.00	26144.42	BB	9.9999e5	0.0415	563.9883	0.0000
6	5.855	7255687.50	729032.25	BV	1.0000e6	0.0415	563.9883	0.0000
7	6.077	1599656.25	356814.53	VB	1.0000e6	0.0415	563.9883	0.0000
8	6.272	1150619.38	263958.66	BV	1.0000e6	0.0415	563.9883	0.0000
9	6.379	313526.88	71358.56	VV	1.0000e6	0.0415	563.9883	0.0000
10	6.497	464583.13	117619.04	VB	1.0000e6	0.0415	563.9883	0.0000
11	6.667	2621272.50	488326.28	BB	1.0000e6	0.0415	563.9883	0.0000
12	7.142	282880.00	56957.58	BB	1.0000e6	0.0415	563.9883	0.0000
13	7.339	203720.94	62099.88	BB	1.0000e6	0.0415	563.9883	0.0000
14	7.668	47834.38	14092.99	BB	1.0000e6	0.0415	563.9883	0.0000
15	8.164	17264.06	3393.78	BV	1.0000e6	0.0415	563.9883	0.0000
16	8.371	744945.63	89481.31	VV	1.0000e6	0.0415	563.9883	0.0000
17	8.617	423046.25	48409.80	VV	1.0000e6	0.0415	563.9883	0.0000
18	9.127	297027.50	37674.91	VV	1.0000e6	0.0415	563.9883	0.0000
19	9.338	49586.88	17400.51	VV	1.0000e6	0.0415	563.9883	0.0000
20	9.460	238696.25	44981.08	VV	1.0000e6	0.0415	563.9883	0.0000
21	9.832	351115.63	53569.36	VB	1.0000e6	0.0415	563.9883	0.0000
22	10.240	410083.13	66571.01	BV	1.0000e6	0.0415	563.9883	0.0000
23	10.580	425255.94	68263.16	VB	1.0000e6	0.0415	563.9883	0.0000
24	10.976	730766.81	112103.76	BE	1.0000e6	0.0415	563.9883	0.0000
25	11.163	40050.00	9418.64	EV	1.0000e6	0.0415	563.9883	0.0000
26	11.287	86446.41	15706.45	VV	1.0000e6	0.0415	563.9883	0.0000
27	11.397	158356.25	19262.88	VB	1.0000e6	0.0415	563.9883	0.0000
28	11.684	430486.25	62364.01	BV	1.0000e6	0.0415	563.9883	0.0000
29	11.954	112287.19	15787.93	VV	1.0000e6	0.0415	563.9883	0.0000
30	12.079	117216.41	15016.93	VV	1.0000e6	0.0415	563.9883	0.0000
31	12.322	480644.38	50914.53	VV	1.0000e6	0.0415	563.9883	0.0000
32	12.603	203851.88	28149.92	VV	1.0000e6	0.0415	563.9883	0.0000
33	12.752	622978.44	70147.09	VV	1.0000e6	0.0415	563.9883	0.0000
34	12.954	565529.69	78846.85	VV	1.0000e6	0.0415	563.9883	0.0000
35	13.059	380418.59	71763.20	VV	1.0000e6	0.0415	563.9883	0.0000
36	13.393	1408760.63	95853.13	VV	1.0000e6	0.0415	563.9883	0.0000
37	13.568	1112120.88	102664.49	VV	1.0000e6	0.0415	563.9883	0.0000
38	13.783	1181981.38	129389.92	VV	1.0000e6	0.0415	563.9883	0.0000
39	13.974	1776185.25	153896.41	VV	1.0000e6	0.0415	563.9883	0.0000
40	14.204	1907370.88	171792.36	VV	1.0000e6	0.0415	563.9883	0.0000
41	14.340	1578705.00	215000.39	VV	1.0000e6	0.0415	563.9883	0.0000
42	14.553	2853842.75	212674.31	VV	1.0000e6	0.0415	563.9883	0.0000
43	14.776	2859323.75	266758.25	VV	1.0000e6	0.0415	563.9883	0.0000
44	14.902	2708331.75	288311.31	VV	1.0000e6	0.0415	563.9883	0.0000
45	15.102	2759801.25	285380.78	VV	1.0000e6	0.0415	563.9883	0.0000
46	15.301	3407668.75	324905.69	VV	1.0000e6	0.0415	563.9883	0.0000
47	15.427	4397481.00	357159.34	VV	1.0000e6	0.0415	563.9883	0.0000
48	15.735	7706067.50	672894.19	VV	1.0000e6	0.0415	563.9883	0.0000
49	15.925	1880440.50	386728.19	VV	1.0000e6	0.0415	563.9883	0.0000
50	15.992	3455205.25	407714.50	VV	1.0000e6	0.0415	563.9883	0.0000

=====
Software Version: 3.2 <16C20>
Sample Name : 9406119-12B Time : 06/16/94 04:00
Sample Number: SC ;S Study : MODSD
Operator : SEG
Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 03:25
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__133.raw
Result File : l:\data\tchrom\pest\varc\C__133.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

=====

Table with 8 columns: Peak #, Ret Time [min], Area [UV-sec], Height [uV], BL, Area/Amount, RF VALUE, DIESEL AMT. PPM, STD RF VALUE. Contains 30 rows of peak data and a summary row at the bottom.

=====
END
=====

Chromatogram

Page 1 of 1

Sample Name : 9406119-128

Sample #: SC ;S

FileName : l:\data\tchrom\pest\varc\C__133.raw

Date : 06/16/94 04:00

Method : DIESEL.C.ins

Time of Injection: 06/16/94 03:25

Start Time : 1.00 min

End Time : 34.66 min

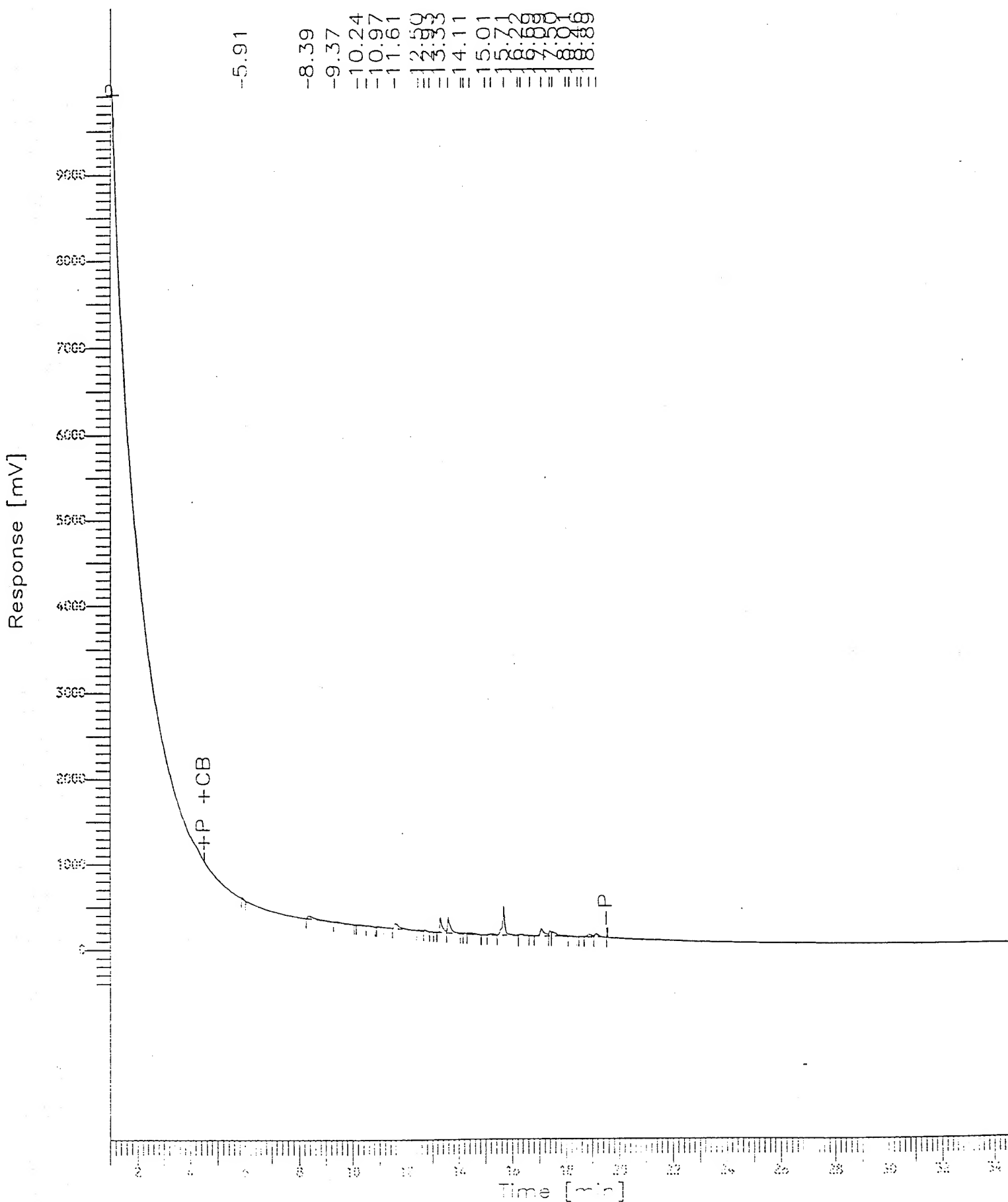
Low Point : -446.76 mV

High Point : 9999.99 mV

Scale Factor: 1

Plot Offset: -447 mV

Plot Scale: 10447 mV



31	16.126	1060372.50	355263.94	VV	1.0000e6	0.0415	563.9883	0.0000
32	16.259	3700951.75	385166.25	VV	1.0000e6	0.0415	563.9883	0.0000
33	16.413	3068620.50	401896.38	VV	1.0000e6	0.0415	563.9883	0.0000
34	16.509	5207397.00	403964.06	VV	1.0000e6	0.0415	563.9883	0.0000
35	16.715	2054210.25	348806.31	VV	1.0000e6	0.0415	563.9883	0.0000
36	16.882	3943028.75	395164.13	VV	1.0000e6	0.0415	563.9883	0.0000
37	16.997	3215613.50	345319.69	VV	9.9999e5	0.0415	563.9883	0.0000
38	17.172	2491743.50	314330.88	VV	1.0000e6	0.0415	563.9883	0.0000
39	17.316	5295190.00	327490.56	VV	1.0000e6	0.0415	563.9883	0.0000
40	17.605	1802490.63	259238.14	VV	1.0000e6	0.0415	563.9883	0.0000
41	17.728	2667151.75	260179.31	VV	1.0000e6	0.0415	563.9883	0.0000
42	17.920	3438481.75	221885.47	VV	1.0000e6	0.0415	563.9883	0.0000
43	18.192	3824856.25	184593.73	VV	1.0000e6	0.0415	563.9883	0.0000
44	18.617	2472351.50	133888.42	VV	1.0000e6	0.0415	563.9883	0.0000
45	19.062	436560.31	52855.53	VV	1.0000e6	0.0415	563.9883	0.0000
46	19.196	462525.31	47656.70	VB	1.0000e6	0.0415	563.9883	0.0000

1.35e8

1.50e7

2.7410

37223.2266

0.0001

=====
END
=====

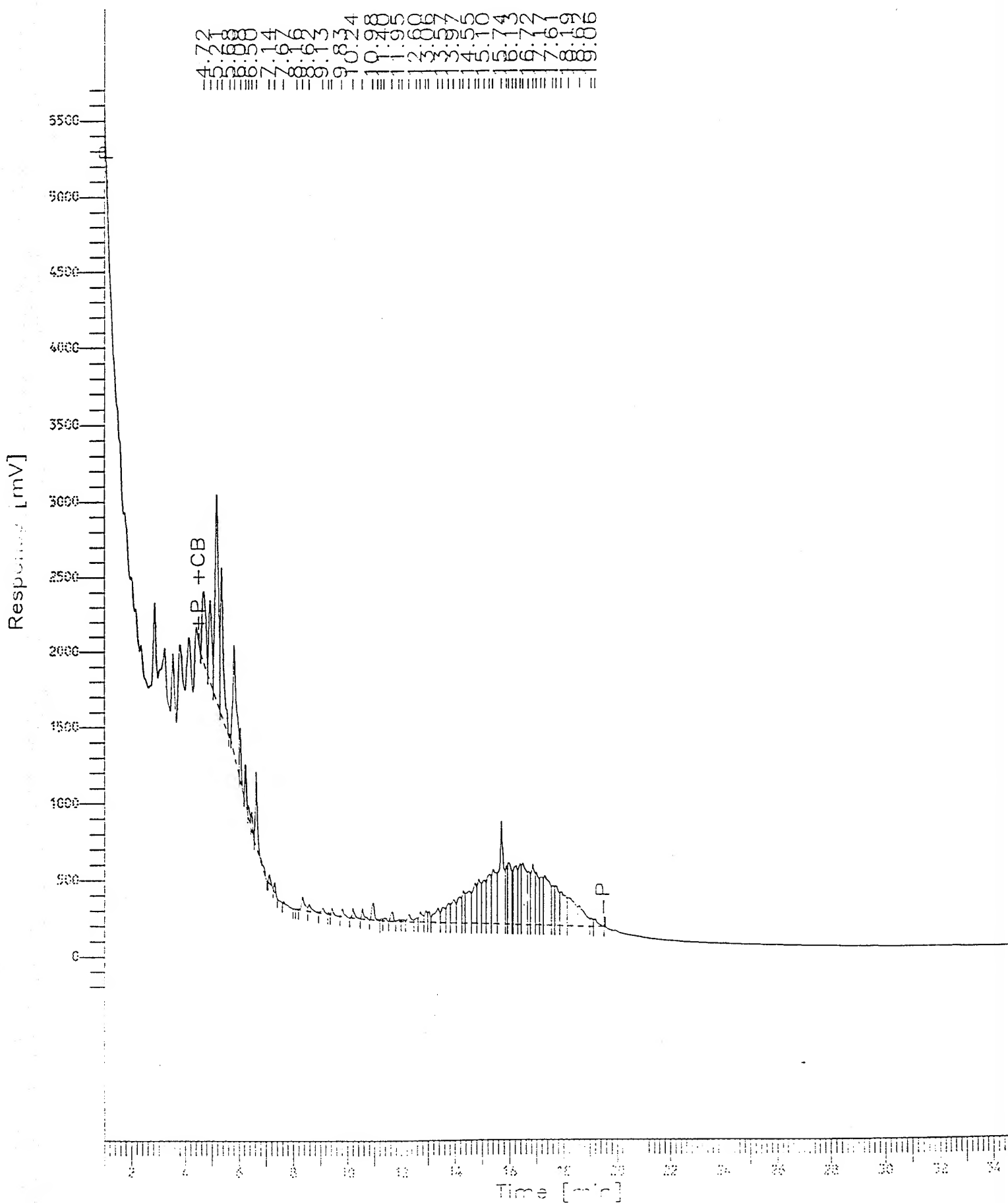
Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__132.TX0

Chromatogram

```
Sample Name : 9406119-138
FileName    : l:\data\tchrom\pest\varc\C__132.raw
Method      : DIESELC.ins
Start Time  : 1.00 min           End Time   : 34.66 min
Scale Factor: 1                 Plot Offset: -228 mV
```

Sample #: SC ;S Page 1 of 1
Date : 06/16/94 03:19
Time of Injection: 06/16/94 02:44
Low Point : -228.19 mV High Point : 5703.84 mV
Plot Scale: 5932 mV

Page 1 of 1



```

=====
Software Version: 3.2 <16C20>
Sample Name : 9406119-148      Time       : 06/14/94  09:02
Sample Number: SC ;S           Study      : MODSD
Operator    : SEG

Instrument  : VARC              Channel : A    A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial   : 0/0

```

```

Interface Serial # : 8328570191  Data Acquisition Time: 06/13/94  21:58
Delay Time       : 1.00 min.
End Time        : 34.66 min.
Sampling Rate    : 1.0000 pts/sec

```

```

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__098.raw
Result File   : C:\DOS\rst013D.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File  : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File   : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : <none>

```

```

Inj. Volume   : 1 ul           Area Reject : 100.00
Sample Amount : 1.0000        Dilution Factor : 1.00

```

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.770	12196.80	2518.30	BV	1.0000e6	0.0415	25.9561	0.0000
2	6.027	177554.84	20404.95	VV	1.0000e6	0.0415	25.9561	0.0000
3	6.267	177709.53	15911.14	VV	1.0000e6	0.0415	25.9561	0.0000
4	6.351	209035.31	17102.69	VV	1.0000e6	0.0415	25.9561	0.0000
5	6.719	215610.00	15715.25	VV	1.0000e6	0.0415	25.9561	0.0000
6	6.840	109145.39	15670.10	VV	1.0000e6	0.0415	25.9561	0.0000
7	6.999	282204.06	16473.29	VV	1.0000e6	0.0415	25.9561	0.0000
8	7.237	193465.78	14776.39	VV	1.0000e6	0.0415	25.9561	0.0000
9	7.461	115687.97	12527.99	VV	1.0000e6	0.0415	25.9561	0.0000
10	7.633	77975.63	10251.74	VV	1.0000e6	0.0415	25.9561	0.0000
11	7.844	102558.75	8576.97	VV	1.0000e6	0.0415	25.9561	0.0000
12	7.982	103244.22	9846.86	VV	1.0000e6	0.0415	25.9561	0.0000
13	8.198	27827.27	3812.27	VE	1.0000e6	0.0415	25.9561	0.0000
14	8.427	2560.00	626.59	EB	1.0000e6	0.0415	25.9561	0.0000
15	8.946	347305.00	13441.83	BB	1.0000e6	0.0415	25.9561	0.0000
16	9.453	16735.00	1547.49	BB	9.9999e5	0.0415	25.9561	0.0000
17	10.263	5882.19	627.07	BV	1.0000e6	0.0415	25.9561	0.0000
18	10.765	24577.19	4096.69	VB	1.0000e6	0.0415	25.9561	0.0000
19	11.036	5638.44	827.65	BV	1.0000e6	0.0415	25.9561	0.0000
20	11.585	14811.25	3256.20	VB	1.0000e6	0.0415	25.9561	0.0000
21	11.753	3895.70	877.82	BV	1.0000e6	0.0415	25.9561	0.0000
22	11.887	36749.38	3800.52	VB	1.0000e6	0.0415	25.9561	0.0000
23	12.906	119869.69	7516.58	BB	1.0000e6	0.0415	25.9561	0.0000
24	13.681	1500.00	463.64	BV	1.0000e6	0.0415	25.9561	0.0000
25	13.793	12090.00	2195.89	VB	1.0000e6	0.0415	25.9561	0.0000
26	14.237	9178.13	1244.71	BV	9.9999e5	0.0415	25.9561	0.0000
27	14.623	5894.45	1242.04	VV	1.0000e6	0.0415	25.9561	0.0000
28	14.770	11252.66	1202.30	VB	1.0000e6	0.0415	25.9561	0.0000
29	15.144	520.00	294.80	BB	1.0000e6	0.0415	25.9561	0.0000
30	15.289	8955.00	1791.36	BB	1.0000e6	0.0415	25.9561	0.0000
31	15.778	1301485.50	240492.05	BB	1.0000e6	0.0415	25.9561	0.0000
32	16.294	31587.19	1156.15	BV	1.0000e6	0.0415	25.9561	0.0000
33	16.801	155421.64	7686.68	VV	1.0000e6	0.0415	25.9561	0.0000
34	17.072	95520.39	10611.53	VV	1.0000e6	0.0415	25.9561	0.0000
35	17.261	91354.10	13977.90	VV	1.0000e6	0.0415	25.9561	0.0000
36	17.388	328867.09	18917.28	VV	9.9999e5	0.0415	25.9561	0.0000
37	17.666	408989.59	19401.83	VV	9.9999e5	0.0415	25.9561	0.0000
38	18.045	366997.16	21643.71	VV	1.0000e6	0.0415	25.9561	0.0000
39	18.302	563895.44	21946.93	VV	9.9999e5	0.0415	25.9561	0.0000
40	18.748	380638.59	18113.39	VV	1.0000e6	0.0415	25.9561	0.0000
41	19.220	93573.79	11284.31	VB	1.0000e6	0.0415	25.9561	0.0000
		6249966.00	593872.88			1.7027	1064.2066	0.0007

END

Sample Name : 9406119-148

Sample #: SC ;S

FileName : L:\DATA\TCHROM\PEST\VARC\C__098.raw

Date : 06/14/94 09:02

Method : DIESEL.C.ins

Time of Injection: 06/13/94 21:58

Start Time : 1.00 min

End Time : 34.66 min

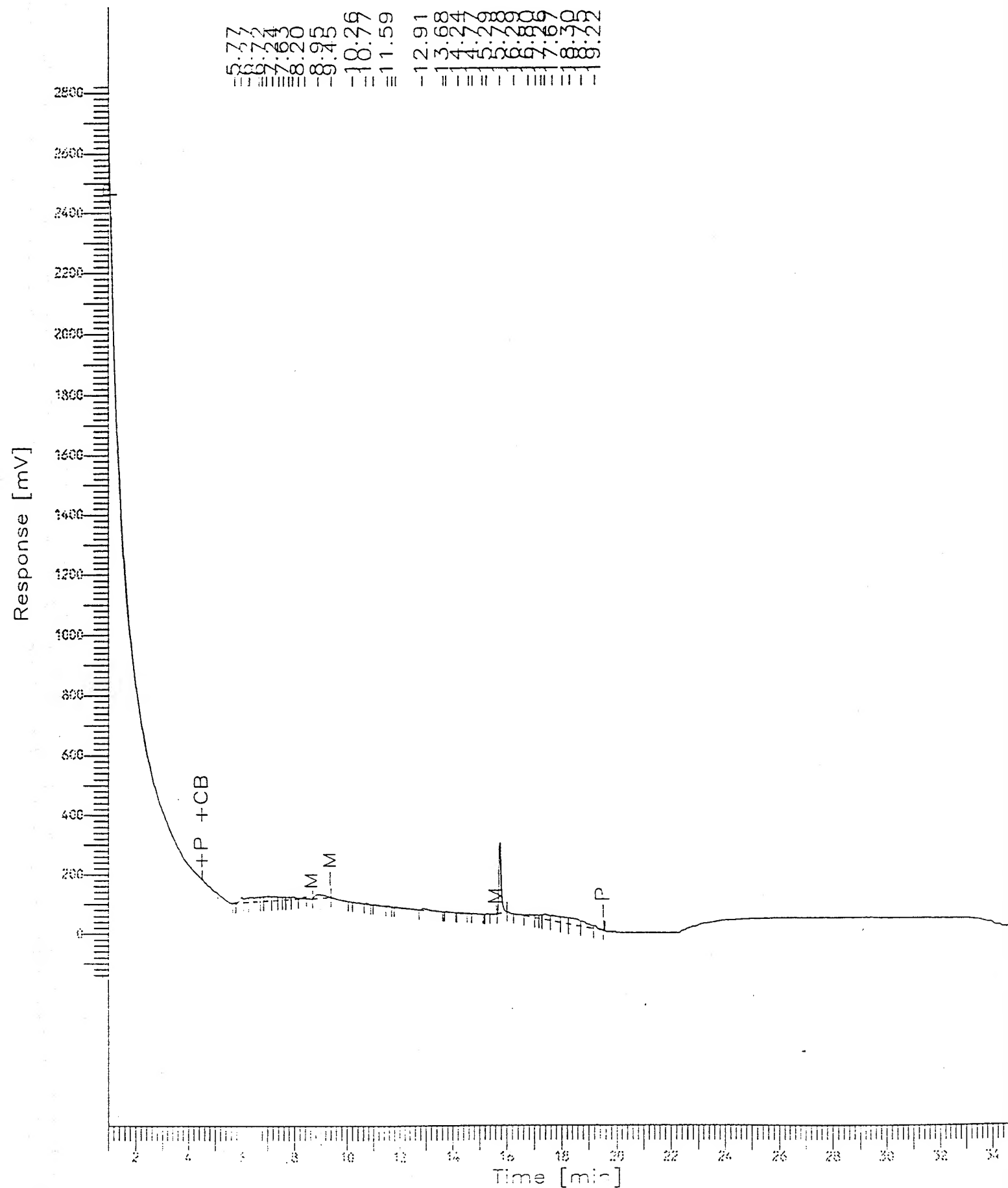
Low Point : -141.10 mV

High Point : 2822.27 mV

Scale Factor: 1

Plot Offset: -141 mV

Plot Scale: 2963 mV



Software Version: 3.2 <16C20>
 Sample Name : 9406119-148 Time : 06/13/94 22:32
 Sample Number: SC ;S Study : MODSD
 Operator : SEG
 Instrument : VARC Channel : A A/D μ V Range : 10000
 AutoSampler : NONE
 Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 21:58
 Delay Time : 1.00 min.
 End Time : 34.66 min.
 Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__098.raw
 Result File : l:\data\tchrom\pest\varc\C__098.rst
 Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
 Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
 Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
 Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 μ l Area Reject : 100.00
 Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [μ V-sec]	Height [V]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.770	17522.97	3653.58	BV	1.0000e6	0.0415	113.3574	0.0000
2	6.027	240164.38	24887.66	VV	1.0000e6	0.0415	113.3574	0.0000
3	6.267	258580.23	23519.94	VV	1.0000e6	0.0415	113.3574	0.0000
4	6.351	331971.78	25814.50	VV	9.9999e5	0.0415	113.3574	0.0000
5	6.719	389090.63	29229.93	VV	1.0000e6	0.0415	113.3574	0.0000
6	6.840	211864.22	30759.24	VV	1.0000e6	0.0415	113.3574	0.0000
7	6.999	595251.88	33635.36	VV	1.0000e6	0.0415	113.3574	0.0000
8	7.237	485643.75	35038.82	VV	1.0000e6	0.0415	113.3574	0.0000
9	7.461	350473.91	35710.13	VV	1.0000e6	0.0415	113.3574	0.0000
10	7.633	281456.72	35677.00	VV	1.0000e6	0.0415	113.3574	0.0000
11	7.844	433867.72	36758.53	VV	1.0000e6	0.0415	113.3574	0.0000
12	7.982	593685.94	39831.06	VV	1.0000e6	0.0415	113.3574	0.0000
13	8.198	396345.84	36615.18	VV	1.0000e6	0.0415	113.3574	0.0000
14	8.427	576647.50	36359.13	VV	9.9999e5	0.0415	113.3574	0.0000
15	8.946	2314362.25	53447.75	VV	1.0000e6	0.0415	113.3574	0.0000
16	9.453	1978840.25	47414.92	VV	1.0000e6	0.0415	113.3574	0.0000
17	10.263	902727.00	36718.16	VV	1.0000e6	0.0415	113.3574	0.0000
18	10.765	676236.56	37114.55	VV	1.0000e6	0.0415	113.3574	0.0000
19	11.036	897367.31	32324.22	VV	1.0000e6	0.0415	113.3574	0.0000
20	11.585	427061.47	32759.83	VV	1.0000e6	0.0415	113.3574	0.0000
21	11.753	177523.39	29856.88	VV	1.0000e6	0.0415	113.3574	0.0000
22	11.887	1594211.25	32367.96	VV	1.0000e6	0.0415	113.3574	0.0000
23	12.906	1478131.88	33305.81	VV	1.0000e6	0.0415	113.3574	0.0000
24	13.681	103302.42	25915.49	VV	1.0000e6	0.0415	113.3574	0.0000
25	13.793	696460.31	27592.71	VV	1.0000e6	0.0415	113.3574	0.0000
26	14.237	596904.75	26669.08	VV	1.0000e6	0.0415	113.3574	0.0000
27	14.623	264353.63	27076.97	VV	1.0000e6	0.0415	113.3574	0.0000
28	14.770	638789.75	27193.49	VV	9.9999e5	0.0415	113.3574	0.0000
29	15.144	106315.52	26728.60	VV	1.0000e6	0.0415	113.3574	0.0000
30	15.289	767788.81	29390.10	VV	1.0000e6	0.0415	113.3574	0.0000
31	15.778	2530271.00	273690.22	VE	1.0000e6	0.0415	113.3574	0.0000
32	16.294	863830.00	34185.37	EV	1.0000e6	0.0415	113.3574	0.0000
33	16.801	808990.63	36353.32	VV	1.0000e6	0.0415	113.3574	0.0000
34	17.072	325927.84	36416.45	VV	1.0000e6	0.0415	113.3574	0.0000
35	17.261	260706.67	37788.63	VV	1.0000e6	0.0415	113.3574	0.0000
36	17.388	745078.56	41394.34	VV	1.0000e6	0.0415	113.3574	0.0000
37	17.666	811564.81	38942.93	VV	1.0000e6	0.0415	113.3574	0.0000
38	18.045	633034.63	37177.63	VV	9.9999e5	0.0415	113.3574	0.0000
39	18.302	856061.63	34773.74	VV	1.0000e6	0.0415	113.3574	0.0000
40	18.748	548143.69	26232.25	VV	1.0000e6	0.0415	113.3574	0.0000
41	19.220	128768.96	14414.39	VB	9.9999e5	0.0415	113.3574	0.0000
		27295316.00	1.56e6			1.7027	4647.6548	0.0002

END

Sample Name : 9406119-148

FileName : l:\data\tchrom\pest\varc\C__098.raw

Method : DIESEL.C.ins

Start Time : 1.00 min

Scale Factor: 1

End Time : 34.66 min

Plot Offset: -141 mV

Sample #: SC ;S

Date : 06/13/94 22:33

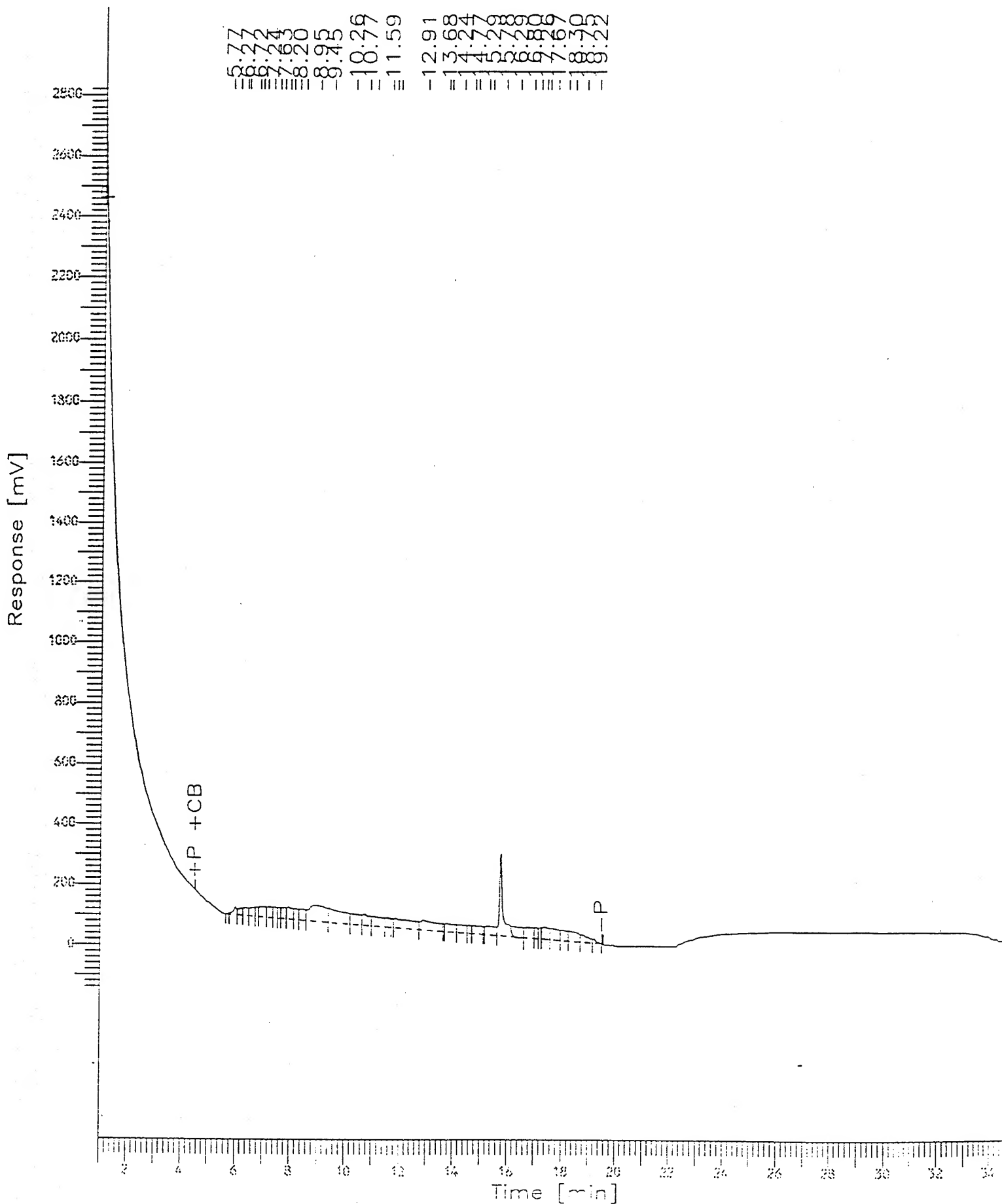
Time of Injection: 06/13/94 21:58

Low Point : -141.10 mV

Plot Scale: 2963 mV

Page 1 of 1

High Point : 2822.27 mV



Software Version: 3.2 <16C20>

Sample Name : 9406119-14MSD

Time : 06/16/94 01:16

Sample Number: KMD;S

Study : MCDSD

Operator : SEG

Instrument : VARC

Channel : A A/D mV Range : 10000

AutoSampler : NONE

Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 12:41

Delay Time : 1.00 min.

End Time : 34.66 min.

Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C__129.raw

Result File : l:\data\tchrom\pest\varc\C__129.rst

Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins

Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc

Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp

Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.seq

Inj. Volume : 1 ul

Area Reject : 100.00

Sample Amount : 1.0000

Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.883	4164535.00	567473.94	BV	1.0000e6	0.0415	2538.4854	0.0000
2	5.227	724625.63	111137.35	VB	1.0000e6	0.0415	2538.4854	0.0000
3	5.414	276098.13	45143.03	BV	1.0000e6	0.0415	2538.4854	0.0000
4	5.583	333841.88	63512.77	VB	1.0000e6	0.0415	2538.4854	0.0000
5	5.714	1344128.75	165232.45	VB	1.0000e6	0.0415	2538.4854	0.0000
6	5.884	2018826.25	293088.00	VB	1.0000e6	0.0415	2538.4854	0.0000
7	5.989	2112549.25	227030.42	VB	1.0000e6	0.0415	2538.4854	0.0000
8	6.294	1887282.50	299991.38	VB	1.0000e6	0.0415	2538.4854	0.0000
9	6.491	8517722.00	1.36e6	VB	1.0000e6	0.0415	2538.4854	0.0000
10	6.668	5690140.00	685498.44	VB	1.0000e6	0.0415	2538.4854	0.0000
11	6.944	3502076.25	359511.09	VB	1.0000e6	0.0415	2538.4854	0.0000
12	7.220	8387100.00	942308.25	VB	1.0000e6	0.0415	2538.4854	0.0000
13	7.338	6285682.50	855146.25	VB	1.0000e6	0.0415	2538.4854	0.0000
14	7.631	18668050.00	2.32e6	VB	9.9999e5	0.0415	2538.4854	0.0000
15	7.800	11902022.00	1.28e6	VB	1.0000e6	0.0415	2538.4854	0.0000
16	8.040	5546617.00	879872.44	VB	1.0000e6	0.0415	2538.4854	0.0000
17	8.183	4543694.50	809893.44	VB	1.0000e6	0.0415	2538.4854	0.0000
18	8.256	4483858.50	968995.31	VB	1.0000e6	0.0415	2538.4854	0.0000
19	8.362	10126864.00	1.31e6	VB	9.9999e5	0.0415	2538.4854	0.0000
20	8.504	4561242.50	1.31e6	VB	1.0000e6	0.0415	2538.4854	0.0000
21	8.585	20307368.00	3.49e6	VB	1.0000e6	0.0415	2538.4854	0.0000
22	8.746	16485415.00	1.96e6	VB	1.0000e6	0.0415	2538.4854	0.0000
23	8.992	12770377.00	1.51e6	VB	1.0000e6	0.0415	2538.4854	0.0000
24	9.119	19654478.00	1.94e6	VB	1.0000e6	0.0415	2538.4854	0.0000
25	9.434	31177512.00	4.34e6	VB	1.0000e6	0.0415	2538.4854	0.0000
26	9.673	15749392.00	1.55e6	VB	1.0000e6	0.0415	2538.4854	0.0000
27	9.837	13840327.00	2.00e6	VB	1.0000e6	0.0415	2538.4854	0.0000
28	9.947	13594544.00	1.88e6	VB	1.0000e6	0.0415	2538.4854	0.0000
29	10.218	39398136.00	4.95e6	VB	1.0000e6	0.0415	2538.4854	0.0000
30	10.411	10473669.00	1.35e6	VB	1.0000e6	0.0415	2538.4854	0.0000
31	10.585	31929128.00	2.61e6	VB	1.0000e6	0.0415	2538.4854	0.0000
32	10.964	45488208.00	5.19e6	VB	1.0000e6	0.0415	2538.4854	0.0000
33	11.189	7175497.50	1.44e6	VB	1.0000e6	0.0415	2538.4854	0.0000
34	11.355	30672198.00	1.75e6	VB	1.0000e6	0.0415	2538.4854	0.0000
35	11.653	36663368.00	4.00e6	VB	1.0000e6	0.0415	2538.4854	0.0000
36	11.933	13564204.00	1.46e6	VB	1.0000e6	0.0415	2538.4854	0.0000
37	12.069	14778864.00	1.53e6	VB	1.0000e6	0.0415	2538.4854	0.0000
38	12.310	26841874.00	3.27e6	VB	1.0000e6	0.0415	2538.4854	0.0000
39	12.463	6699400.50	1.14e6	VB	1.0000e6	0.0415	2538.4854	0.0000
40	12.582	7682883.50	1.16e6	VB	1.0000e6	0.0415	2538.4854	0.0000
41	12.721	11533645.00	1.14e6	VB	1.0000e6	0.0415	2538.4854	0.0000
42	12.940	21823004.00	2.36e6	VB	1.0000e6	0.0415	2538.4854	0.0000
43	13.194	7592519.50	910435.94	VB	1.0000e6	0.0415	2538.4854	0.0000
44	13.384	8547309.00	852332.19	VB	1.0000e6	0.0415	2538.4854	0.0000
45	13.546	11181455.00	1.51e6	VB	1.0000e6	0.0415	2538.4854	0.0000
46	13.763	5748468.50	569044.44	VB	1.0000e6	0.0415	2538.4854	0.0000
47	13.961	5138991.00	504008.47	VB	1.0000e6	0.0415	2538.4854	0.0000
48	14.125	6903380.00	906906.50	VB	1.0000e6	0.0415	2538.4854	0.0000
49	14.331	2470997.75	306222.41	VB	1.0000e6	0.0415	2538.4854	0.0000
50	14.461	2396155.50	245272.11	VB	9.9999e5	0.0415	2538.4854	0.0000

51	14.686	4531522.00	379199.72	VV	1.0000e6	0.0415	2538.4854	0.0000
52	15.224	1380964.38	136834.09	VV	1.0000e6	0.0415	2538.4854	0.0000
53	15.737	1657642.13	365950.22	VB	1.0000e6	0.0415	2538.4854	0.0000
54	15.992	4145.00	2618.04	BB	9.9999e5	0.0415	2538.4854	0.0000
55	16.245	48399.69	14787.02	BB	1.0000e6	0.0415	2538.4854	0.0000
56	16.724	39510.00	9082.14	BB	1.0000e6	0.0415	2538.4854	0.0000
57	17.193	24842.19	5777.71	BV	1.0000e6	0.0415	2538.4854	0.0000
58	17.326	16727.66	2436.13	VB	1.0000e6	0.0415	2538.4854	0.0000
59	17.639	19780.00	4526.45	BB	9.9999e5	0.0415	2538.4854	0.0000
60	18.063	27545.47	5064.40	BV	1.0000e6	0.0415	2538.4854	0.0000
61	18.295	4367.89	422.08	VV	9.9999e5	0.0415	2538.4854	0.0000
62	18.507	17215.00	3668.78	VV	1.0000e6	0.0415	2538.4854	0.0000
63	18.612	62915.00	6712.95	VV	1.0000e6	0.0415	2538.4854	0.0000
64	18.926	12637.19	2016.04	VV	1.0000e6	0.0415	2538.4854	0.0000
65	19.210	33689.53	4665.03	VB	9.9999e5	0.0415	2538.4854	0.0000

6.11e8

7.37e7

2.6995

1.6500e5

0.0000

=====
END
=====

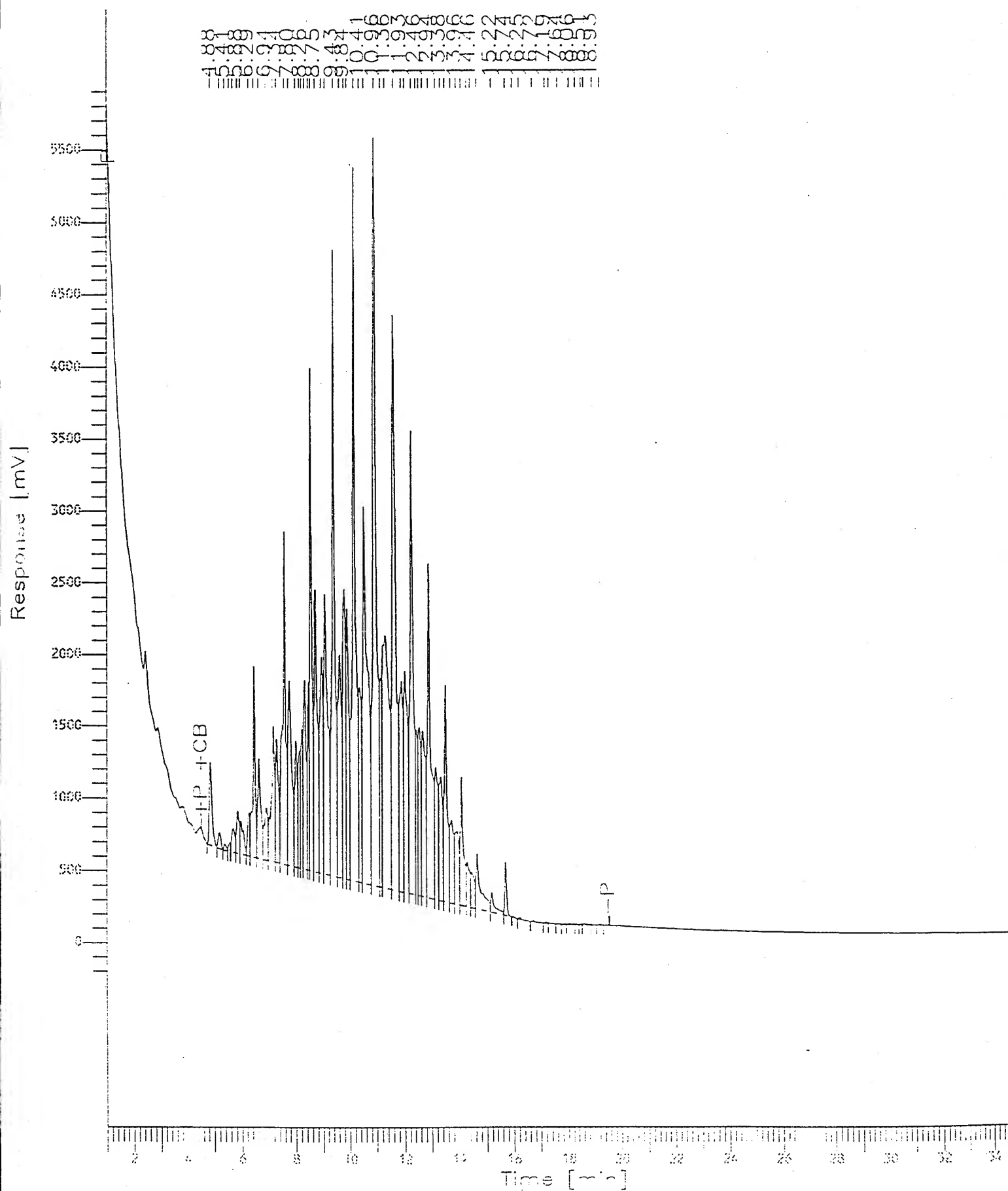
Report Stored in ASCII File: l:\data\tchrom\pest\varc\C__129.TX0

Chromatogram

Sample Name : 9406119-14MSD
FileName : l:\data\tchrom\pest\varc\C__129.raw
Method : DIESEL.C.ins
Start Time : 1.00 min
Scale Factor: 1

Sample #: KMD;S
Date : 06/16/94 01:16
Time of Injection: 06/16/94 12:41
Low Point : -234.18 mV
Plot Scale: 6164 mV

Page 1 of 1



Software Version: 3.2 <16C20>
Sample Name : 9406119-01B Time : 6/17/94 11:36 AM
Sample Number: SC ;S;25 Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/17/94 10:24 AM
Delay Time : 3.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C__176.raw
Result File : C:\WINDOWS\TEMP\rst080A.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESEL.C.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 25.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.109	275940.00	3025.98	BB	1.0000e6	0.0415	19006.8359	0.0000
2	7.243	11015.16	2146.12	BB	1.0000e6	0.0415	19006.8359	0.0000
3	7.568	29950.00	3955.12	BB	1.0000e6	0.0415	19006.8359	0.0000
4	7.866	24374.84	3516.12	BV	1.0000e6	0.0415	19006.8359	0.0000
5	8.009	10665.31	2167.43	VB	1.0000e6	0.0415	19006.8359	0.0000
6	8.197	21055.00	3917.33	BB	1.0000e6	0.0415	19006.8359	0.0000
7	8.340	6340.00	1728.72	BB	1.0000e6	0.0415	19006.8359	0.0000
8	8.497	1137.46	564.78	BV	1.0000e6	0.0415	19006.8359	0.0000
9	8.659	46849.30	8797.29	VV	1.0000e6	0.0415	19006.8359	0.0000
10	8.775	49759.14	9116.08	VV	1.0000e6	0.0415	19006.8359	0.0000
11	9.027	286038.59	22789.95	VV	9.9999e5	0.0415	19006.8359	0.0000
12	9.173	99465.86	21037.84	VV	1.0000e6	0.0415	19006.8359	0.0000
13	9.266	271646.25	29921.60	VV	9.9999e5	0.0415	19006.8359	0.0000
14	9.378	140940.31	28923.66	VV	1.0000e6	0.0415	19006.8359	0.0000
15	9.559	294712.97	36538.93	VV	1.0000e6	0.0415	19006.8359	0.0000
16	9.754	607124.81	53624.73	VV	1.0000e6	0.0415	19006.8359	0.0000
17	9.858	449714.69	59627.21	VV	1.0000e6	0.0415	19006.8359	0.0000
18	10.023	537880.94	62752.76	VV	9.9999e5	0.0415	19006.8359	0.0000
19	10.394	1644484.38	90569.21	VV	1.0000e6	0.0415	19006.8359	0.0000
20	10.674	1651923.88	114352.77	VV	1.0000e6	0.0415	19006.8359	0.0000
21	10.953	2198718.25	141168.67	VV	1.0000e6	0.0415	19006.8359	0.0000
22	11.116	1326381.38	153364.59	VV	1.0000e6	0.0415	19006.8359	0.0000
23	11.468	5834111.00	362099.06	VV	9.9999e5	0.0415	19006.8359	0.0000
24	11.635	1324730.88	227368.50	VV	1.0000e6	0.0415	19006.8359	0.0000
25	11.820	1793807.38	232451.98	VV	1.0000e6	0.0415	19006.8359	0.0000
26	12.182	6917105.00	308428.25	VV	1.0000e6	0.0415	19006.8359	0.0000
27	12.322	1761309.00	297855.88	VV	1.0000e6	0.0415	19006.8359	0.0000
28	12.521	4081892.50	329748.63	VV	1.0000e6	0.0415	19006.8359	0.0000
29	12.650	3654740.25	344967.66	VV	1.0000e6	0.0415	19006.8359	0.0000
30	12.975	5197095.50	359678.59	VV	1.0000e6	0.0415	19006.8359	0.0000
31	13.044	1753751.50	355478.75	VV	1.0000e6	0.0415	19006.8359	0.0000
32	13.138	1765746.25	356139.03	VV	1.0000e6	0.0415	19006.8359	0.0000
33	13.283	3585206.75	364328.19	VV	1.0000e6	0.0415	19006.8359	0.0000
34	13.470	3373581.25	386302.22	VV	1.0000e6	0.0415	19006.8359	0.0000
35	13.535	1544610.25	391423.28	VV	1.0000e6	0.0415	19006.8359	0.0000
36	13.674	3523115.00	399012.66	VV	1.0000e6	0.0415	19006.8359	0.0000
37	13.754	2817444.75	407955.22	VV	1.0000e6	0.0415	19006.8359	0.0000
38	13.943	3665484.00	410736.63	VV	1.0000e6	0.0415	19006.8359	0.0000
39	14.099	4646993.00	431330.19	VV	9.9999e5	0.0415	19006.8359	0.0000
40	14.297	3842692.50	430383.72	VV	1.0000e6	0.0415	19006.8359	0.0000
41	14.538	7481983.50	449496.06	VV	1.0000e6	0.0415	19006.8359	0.0000
42	14.685	4908934.50	449977.25	VV	1.0000e6	0.0415	19006.8359	0.0000
43	14.862	3196401.25	460135.38	VV	9.9999e5	0.0415	19006.8359	0.0000
44	14.949	2288132.00	458423.56	VV	1.0000e6	0.0415	19006.8359	0.0000
45	15.033	2770511.25	467998.19	VV	1.0000e6	0.0415	19006.8359	0.0000
46	15.113	1379883.00	461967.56	VV	9.9999e5	0.0415	19006.8359	0.0000
47	15.180	3203675.00	460463.75	VV	1.0000e6	0.0415	19006.8359	0.0000
48	15.289	2277966.25	457713.31	VV	1.0000e6	0.0415	19006.8359	0.0000
49	15.362	1836476.88	460255.84	VV	1.0000e6	0.0415	19006.8359	0.0000
50	15.436	3656243.00	463738.03	VV	1.0000e6	0.0415	19006.8359	0.0000

36^{2b}

641.1771
64.12

51	15.825	5952752.50	468081.94	VV	1.0000e6	0.0415	19006.8359	0.0000
52	15.914	7261153.00	464262.63	VV	1.0000e6	0.0415	19006.8359	0.0000
53	16.061	5301376.00	448212.53	VV	1.0000e6	0.0415	19006.8359	0.0000
54	16.351	6648516.00	449311.38	VV	1.0000e6	0.0415	19006.8359	0.0000
55	16.498	5142093.50	441863.81	VV	1.0000e6	0.0415	19006.8359	0.0000
56	16.784	8020411.00	433044.84	VV	1.0000e6	0.0415	19006.8359	0.0000
57	17.014	1639743.63	411637.06	VV	1.0000e6	0.0415	19006.8359	0.0000
58	17.103	3370226.75	427714.38	VV	9.9999e5	0.0415	19006.8359	0.0000
59	17.215	6354752.50	425381.09	VV	1.0000e6	0.0415	19006.8359	0.0000
60	17.480	11773010.00	370765.75	VV	1.0000e6	0.0415	19006.8359	0.0000
61	18.152	3502072.25	287590.00	VV	1.0000e6	0.0415	19006.8359	0.0000
62	18.293	2407562.50	253473.14	VV	1.0000e6	0.0415	19006.8359	0.0000
63	18.515	5721806.00	242587.92	VV	1.0000e6	0.0415	19006.8359	0.0000
64	18.918	5920882.00	181380.81	VB	9.9999e5	0.0415	19006.8359	0.0000

1.83e8

1.71e7

2.6579

1.2164e6

0.0000

=====
END
=====

Chromatogram

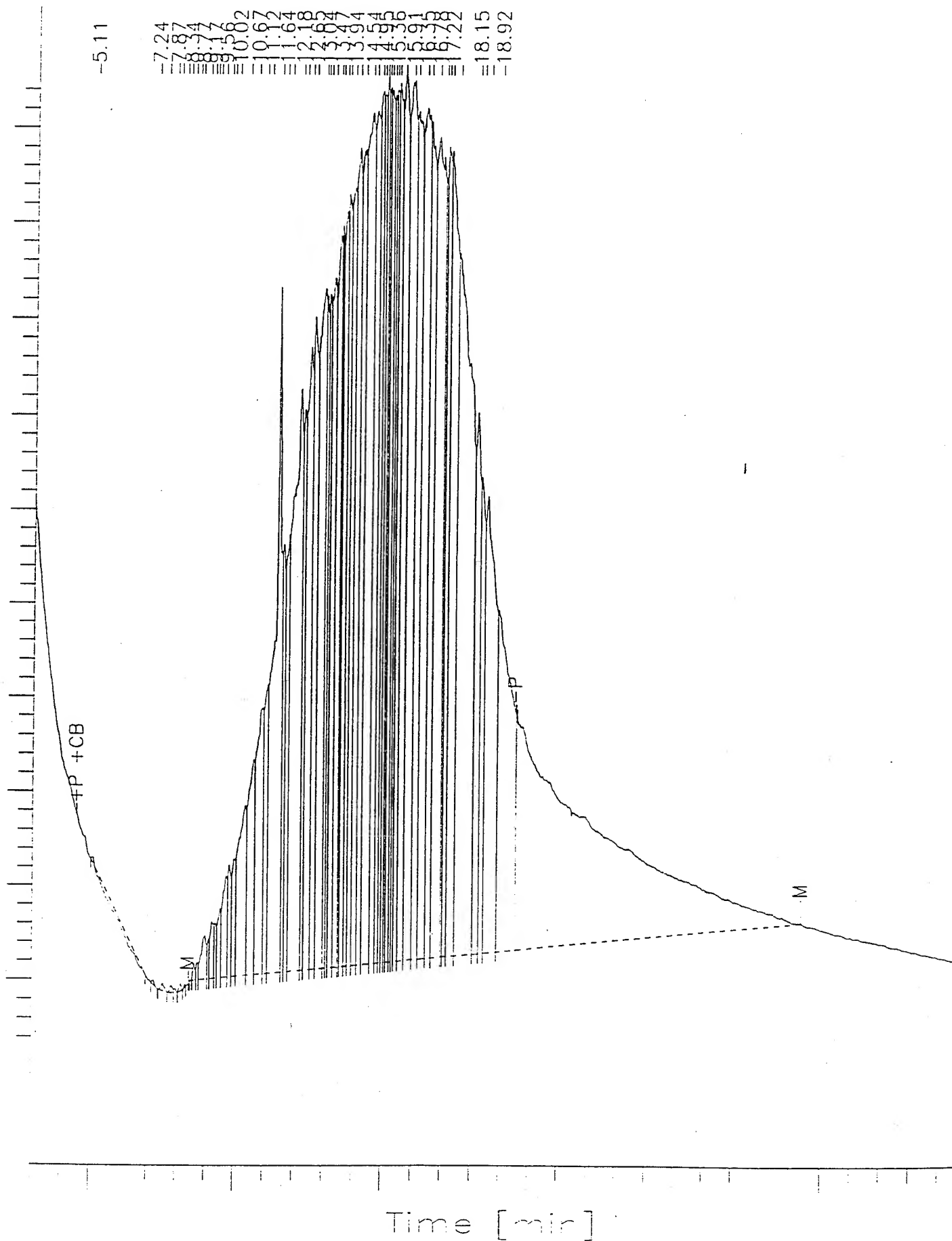
Sample Name : 9406119-018
 FileName : L:\DATA\TCHROM\PEST\VARC\C__176.raw
 Method : DIESEL.C.ins
 Start Time : 3.00 min
 Scale Factor: 1

End Time : 34.66 min
 Plot Offset: 119 mV

Sample #: SC ;S;25
 Date : 6/17/94 11:36 AM
 Time of Injection: 6/17/94 10:24 AM
 Low Point : 119.28 mV
 Plot Scale: 509 mV
 High Point : 628.03 mV

Page 1 of 1

Response [mV]





SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 94-06-170

Approved for release by:

S. Sample

S. Sample, Laboratory Director

Date: 6/27/94

Karen Satterfield

Karen Satterfield, Project Manager

Date: 6/21/94



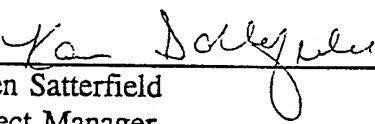
CASE NARRATIVE

WORK ORDER No.: 9406170

Southern Petroleum Laboratories (SPL) is pleased to present the results for laboratory analyses to Operational Technologies. The six (6) soil samples were received at our laboratory on June 04, 1994 at a temperature of 3 degrees Celsius. The following is a brief narrative of the laboratory analysis.

The samples were analyzed for lead by SW-846 method 7421. All results are on an as received basis. There were no deviations from the method. All of the quality control data was within limits for this project.

If I can be of further assistance or answer any questions, please do not hesitate to contact me at (713) 660-0901 ext. 114.



Karen Satterfield
Project Manager



Certificate of Analysis No. 9406170-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-003 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:15:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	9	1	wt. %	
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	7.9	0.4	mg/Kg	

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406170-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-003 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:25:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	14	1	wt. %	
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	4.9	0.4	mg/Kg	

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406170-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-002 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:50:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	4	1	wt. %	
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	5.3	0.4	mg/Kg	

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406170-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-002 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:05:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	11	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	6.2	0.4	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406170-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-001 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:18:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA				
PARAMETER	RESULTS	DETECTION LIMIT	UNITS	
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	14	1	wt. %	
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94			
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	43	8	mg/Kg	

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



Certificate of Analysis No. 9406170-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-001 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:30:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA			
PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	11	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	42	8	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance
with EPA guidelines for quality assurance.



*** SPL QUALITY CONTROL REPORT ***
TOTAL LEAD

SPL sample Id: 9405D46-32A
Matrix: SOIL

Reported on: 06/14/94
Analyzed on: 06/10/94

This sample was randomly selected for use in the SPL quality control program. One in ten samples is fortified with a known concentration of the substance being analyzed and one in ten samples is analyzed in duplicate. The result are as follows:

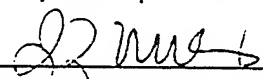
-- SPIKE ANALYSIS --

Sample Id	Blank Value	Spike Added mg/L	Original Sample Concentration mg/Kg	MS Concentration mg/Kg	MS % Rec
9405D46-32A	ND	.040	.0519	.0869	87

-- SPIKE DUPLICATE ANALYSIS --

Sample Id	Spike Added mg/L	MSD Concentration mg/Kg	MSD % Rec	% RPD
9405D46-32A	.040	.0863	86	2

SPL, Incorporated


Idelis Williams, QC Officer



Wet Chemistry QA/QC Validation Report

Test Name: moistureSAM Test Code: moisepDate: 6/8/94Analyst: STMethod GravimetricTime: 12:00pmMatrix ☐ Liquid ☒ Soil ☐ Other# of Samples in Batch: 24Reporting Units: % weight

SPL Sample #'s in Batch:

9406086 - 1B → 3B	9406246 - 4A	
9406224 - 2C, 10C → 13C, 18C	9406160 - 1B	
9406170 - 1A → 6A	9406220 - 1D → 2D	
9406199 - 1C	9406221 - 1D → 4D	

Standards	Actual Concentration	Theoretical Concentration	Percent Recovery	QC Limits (**) (Mandatory)	
				Upper Limit	Lower Limit
Blank					
Check Standard 1					
Check Standard 2					
Check Standard 3					
LCS (Outside Source)					

DUPLICATES

QA/QC Duplicate SPL Sample ID	Sample Result <1>	Sample Result <2>	Relative Percent Difference	QC LIMITS (**) (Advisory)	
				Relative Percent Difference Max.	
9406224 - 18C	18	19	5.4	30.4	
9406170 - 6A	11	11	0		
9406220 - 2D	11	11	0		
9406221 - 4D	23	22	4.4	✓	

Relative Percent Difference (RPD) Calculation:

$$RPD = \frac{<1> - <2>}{(<1> + <2>) \times 0.5} \times 100$$

(**) = Source: SPL Houston Historical Data

* = Indicates Value Outside QA/QC Range

Reviewed By: [Signature]Date: 6/9/94Approved By: [Signature]Date: 6/9/94

Idelis Williams, QC Officer

Date: 6/10/94

UPC 11

PROGRAMMING MODE INSTRUMENT USER METH # 34 - PB DATE: 94/06/10

ELEMENT: PB WAVELENGTH (NM): 283.3 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
PRETREAT TEMP: 850 ATOMIZE TEMP: 1800 CHARACTER, MASS (PG) 12.0

- 1. TECHNIQUE: ZEEMAN
- 2. LAMP CURRENT (MA): 10
- 3. SIGNAL PROCESSING: PEAK AREA
- 4. CALIBRATION: AUTO SELECT
- 5. TIME (SECONDS): 5.0
- 6. READ DELAY (SECONDS): 0.0
- 7. SCREEN FORMAT: 1.0 GRAPHICS
- 8. PRINTER: MAIN SUPPL
- 9. RECORDER SIGNAL: 0.2 CONT ABS
- 10. RECORDER EXP: 1000
- 11. STATISTICS: Z AVERAGE & CV
- 12. NOMINAL WEIGHT 1.0
- 13. ROLLOVER(ABS): 1.500
- 14. BG SCALE: 1.0

15. S1: 25.0 16. S2: 50.0 17. S3: 100.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. RSLP: 50.0

6610A

TIME: 11:29

PB

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.010 ZAA 0.010 BG 0.005
0.010 0.009 0.002

READ: 0.000

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.010 ZAA 0.009 BG 0.004
0.012 0.008 0.003

READ: -0.001

MEAN= -0.001 STD.DEV.=

COEF.VAR.= 64.20 %

0.000 AUTOZERO

PB

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.296 ZAA 0.238 BG 0.061
0.100 0.120 0.034

READ: 0.117

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.296 ZAA 0.238 BG 0.061
0.158 0.127 0.034

READ: 0.119

SL

MEAN= 0.118 STD.DEV.=

COEF.VAR.= 0.96 %

25.0 STANDARD

PB

HEAD: 47.3

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.524 0.414 0.115
0.300 0.233 0.067

READ: 47.5

MEAN= 47.4 STD.DEV.= COEF.VAR.= 0.37 %

47.4

E-50: READING GREATER THAN HIGHEST STANDARD

50.0

STANDARD 2

PB

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.506 0.692 0.221
0.536 0.416 0.120

READ: 100.7

(CONTINUED)

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.890 0.678 0.216
0.533 0.414 0.119

READ: 100.2

MEAN= 100.4 STD.DEV.= COEF.VAR.= 0.38 %

100.4

E-50: READING GREATER THAN HIGHEST STANDARD

100.0

STANDARD 3

PB 0005

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.507 0.398 0.109
0.294 0.233 0.061

READ: 50.2

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.500 0.392 0.109
0.293 0.232 0.061

READ: 50.0

MEAN= 50.1 STD.DEV.= COEF.VAR.= 0.29 %

PB 0006

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.007 0.007 0.002

PEAK AREA (ABS-SECONDS)

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.006
0.008
ZAA
0.006
0.008
BG
0.003
0.001

READ: -0.2

MEAN= -0.1 STD.DEV.=

COEF.VAR.= 99.99 %

FB 0007

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.006
0.003
ZAA
0.007
0.008
BG
0.003
0.001

READ: -0.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.006
0.003
ZAA
0.006
0.007
BG
0.002
0.000

READ: -0.3

MEAN= -0.2 STD.DEV.=

COEF.VAR.= 42.02 %

FB 0008

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.433
0.233
ZAA
0.344
0.191
BG
0.091
0.048

READ: 39.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.436
0.244
ZAA
0.345
0.134
BG
0.052
0.050

READ: 40.6

MEAN= 40.3 STD.DEV.=

COEF.VAR.= 1.46 %

FB 0009

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.012
0.022
ZAA
0.010
0.013
BG
0.010
0.005

READ: 0.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA
0.014
0.026
ZAA
0.009
0.011
BG
0.012
0.014

READ: 0.5

MEAN= 0.7 STD.DEV.=

COEF.VAR.= 35.40 %

FB 0010

PEAK HEIGHT (ABSORBANCE)

AA
0.014
0.026
ZAA
0.009
0.011
BG
0.012
0.014

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

0.434 0.344 0.090
0.244 0.198 0.046

READ: 41.5

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.426 0.337 0.089
0.246 0.197 0.049

READ: 41.4

MEAN= 41.5 STD.DEV.=

COEF.VAR.= 0.22 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.065 0.054 0.012
0.042 0.035 0.013

READ: 6.1

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.562 0.441 0.121
0.316 0.251 0.065

READ: 54.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.567 0.445 0.123
0.300 0.242 0.064

READ: 52.5

MEAN= 53.6 STD.DEV.=

COEF.VAR.= 2.97 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.546 0.429 0.119
0.293 0.239 0.061

READ: 51.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.503 0.396 0.109
0.287 0.235 0.056

READ: 50.6

MEAN= 51.1 STD.DEV.=

COEF.VAR.= 1.49 %

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.005 0.007 0.001
0.000 0.007 -0.008

READ: -0.2

PEAK HEIGHT (ABSORBANCE)

AA 0.003 0.005 0.002
0.000 0.005 0.002

MEAN=-0.7 STD.DEV.= COEF.VAR.= 29.05 %

$(96.2)(20)(100)$

$= 192.4$

PB 0035

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.070
0.520 ZAA 0.796
0.401

BG 0.274
0.118

READ: 95.9

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 1.056
0.516 ZAA 0.794
0.403

BG 0.272
0.115

READ: 96.5

MEAN= 96.2 STD.DEV.=

COEF.VAR.= 0.51 %

PB 0036

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.459
0.431 ZAA 0.352
0.231

BG 0.106
0.291

READ: 49.6

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.496
0.473 ZAA 0.385
0.237

BG 0.111
0.236

READ: 51.3

MEAN= 50.5 STD.DEV.=

COEF.VAR.= 2.56 %

PB 0037

PEAK HEIGHT (ABSORBANCE)

AA 0.757 ZAA 0.580

BG 0.177

PEAK AREA (ABS-SECONDS)

0.645 0.370

READ: 86.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.742
0.645 ZAA 0.562
0.355

BG 0.190
0.290

READ: 82.6

MEAN= 84.7 STD.DEV.=

COEF.VAR.= 4.11 %

PB 0038

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA 0.900
0.735 ZAA 0.596
0.390

BG 0.205
0.345

READ: 92.5

$4c$ $96.2(20)(100)$

READ: 83.1
MEAN= 87.8 STD.DEV.= COEF.VAR.= 9.72 %

PB 0039
PEAK HEIGHT (ABSORBANCE) AA 0.656 BG 0.147
PEAK AREA (ABS-SECONDS) ZAA 0.509 0.373
READ: 87.7

PEAK HEIGHT (ABSORBANCE) AA 0.526 BG 0.115
PEAK AREA (ABS-SECONDS) ZAA 0.414 0.255
READ: 69.7
MEAN= 78.5 STD.DEV.= COEF.VAR.= 18.41 %

PB 0040

PEAK HEIGHT (ABSORBANCE) AA 0.335 BG 0.070
PEAK AREA (ABS-SECONDS) ZAA 0.266 0.135
READ: 46.9

PEAK HEIGHT (ABSORBANCE) AA 0.457 BG 0.096
PEAK AREA (ABS-SECONDS) ZAA 0.361 0.117
READ: 51.6

MEAN= 45.3 STD.DEV.= COEF.VAR.= 7.42 %

PB 0041
PEAK HEIGHT (ABSORBANCE) AA 0.406 BG 0.248
PEAK AREA (ABS-SECONDS) ZAA 0.322 0.435
READ: 53.7

PEAK HEIGHT (ABSORBANCE) AA 0.392 BG 0.242
PEAK AREA (ABS-SECONDS) ZAA 0.313 0.425
READ: 52.5
MEAN= 53.1 STD.DEV.= COEF.VAR.= 1.72 %

PB 0042
PEAK HEIGHT (ABSORBANCE) AA 0.494 BG 0.105
PEAK AREA (ABS-SECONDS) ZAA 0.392

PEAK HEIGHT (ABSORBANCE) ZAA BG
PEAK AREA (ABS-SECONDS) 0.546 0.428
0.294 0.229

READ: 48.9

MEAN= 48.1 STD.DEV.= COEF.VAR.= 2.64 %

PE 0043

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.008 0.008 0.006
0.010 0.007 0.003

READ: -0.3

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.006 0.007 0.005
0.003 0.006 0.002

READ: -0.5

MEAN= -0.4 STD.DEV.= COEF.VAR.= 33.28 %

PE 0044

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.438 0.391 0.107
0.340 0.245 0.094

READ: 53.4

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.587 0.458 0.150
0.449 0.314 0.135

READ: 71.3

MEAN= 62.2 STD.DEV.= COEF.VAR.= 22.65 %

PE 0045

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 2.309 1.540 0.779
1.315 1.173 0.643

READ: 492.1

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

PE 0045

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.280 0.229 0.053
0.150 0.111 0.039

READ: 21.6

PEAK HEIGHT (ABSORBANCE) AA ZAA BG
PEAK AREA (ABS-SECONDS) 0.235 0.232 0.054
0.152 0.111 0.042

READ: 21.5

MEAN= 37.2 210. DEV.= 0.52 %

PB 0050

PEAK HEIGHT (ABSORBANCE) AA 0.061 ZAA 0.007 BG 0.060
PEAK AREA (ABS-SECONDS) 0.137 0.009 0.129

READ: -0.1

PEAK HEIGHT (ABSORBANCE) AA 0.054 ZAA 0.008 BG 0.064
PEAK AREA (ABS-SECONDS) 0.146 0.008 0.139

06001-1c

MEAN= -0.1 STD. DEV.= COEF. VAR.= 61.02 %

PB 0051

PEAK HEIGHT (ABSORBANCE) AA 0.204 ZAA 0.145 BG 0.066
PEAK AREA (ABS-SECONDS) 0.330 0.153 0.177

READ: 30.9

PEAK HEIGHT (ABSORBANCE) AA 0.204 ZAA 0.146 BG 0.064
PEAK AREA (ABS-SECONDS) 0.329 0.154 0.176

1c spk

MEAN= 31.1 STD. DEV.= COEF. VAR.= 0.56 %

PB 0052

PEAK HEIGHT (ABSORBANCE) AA 0.201 ZAA 0.141 BG 0.064
PEAK AREA (ABS-SECONDS) 0.323 0.150 0.173

READ: 30.4

PEAK HEIGHT (ABSORBANCE) AA 0.202 ZAA 0.145 BG 0.064
PEAK AREA (ABS-SECONDS) 0.328 0.152 0.170

1c dupspk

MEAN= 30.6 STD. DEV.= COEF. VAR.= 1.03 %

PB 0053

PEAK HEIGHT (ABSORBANCE) AA 0.515 ZAA 0.403 BG 0.113
PEAK AREA (ABS-SECONDS) 0.272 0.212 0.060

READ: 45.1

PEAK HEIGHT (ABSORBANCE) AA 0.573 ZAA 0.448 BG 0.126

CEAB3

MEAN= 48.9 STD.DEV.= COEF.VAR.= 12.29 %

PB 0054

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA	ZAA	BG
0.010	0.010	0.002
0.000	0.004	-0.004

READ: -0.8

PEAK HEIGHT (ABSORBANCE)
PEAK AREA (ABS-SECONDS)

AA	ZAA	BG
0.010	0.010	0.003
0.002	0.003	-0.001

READ: -1.0

MEAN= -0.9 STD.DEV.= COEF.VAR.= 15.34 %

CCB3